Federal-Provincial-Territorial
Task Force
On Telecommunications

Competition in Public Long-Distance Telephone Service in Canada

December 1988

Report

November 1988

To Honourable Ministers
Responsible for Communications

We, the undersigned, members of the Task Force established to undertake an examination of the factors that would be related to the introduction of competition in public long-distance telephone service in Canada, have the honour to submit the attached report together with associated consulting reports commissioned by the Task Force.

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Federal-Provincial-Territorial Task Force On Telecommunications

Competition in Public Long-Distance Telephone Service in Canada

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ISBN 0-662-56266-6

PREFACE

This report represents the end result of a process of information gathering and analysis undertaken pursuant to the Terms of Reference that were provided to the Task Force in June 1987 by Federal, Provincial and Territorial Ministers responsible for Communications.

In conducting the examination, information was gathered from a range of existing studies and, in addition, a number of new studies on selected matters were commissioned – copies of which have been provided as attachments to the report. The opinions of outside parties having an interest in the issue were not, however, solicited or entertained and the Task Force did not attempt to develop recommendations as to possible courses of future action. As such, the report is intended to constitute a collection of available empirical information that members trust will assist in the development of sound public policy with respect to public long-distance telephone service competition. It does not address the question of whether competition should be permitted and, if so, under what circumstances; nor does it catalogue or detail the views of any other parties on this question.

While the work of the Task Force throughout was interesting and enjoyable, it was also difficult at times to reach definitive conclusions in certain areas. Often, information was not available on specific matters and where available it was on occasion contradictory or inconsistent, making it virtually impossible to ascertain the exact nature of certain relationships, for example between competition and productivity. Furthermore, within the time available to the Task Force it was not always possible to explore certain issues as fully as would have been wished, or to canvas all available information sources. Notwithstanding such difficulties, the Task Force has been able to reach and agree upon conclusions in many important areas.

The Task Force would like to express its appreciation to Messrs. Terry Rochefort, Neil McCallum, Charles Feaver, Anwar Jah and Barry Reed who chaired, respectively, the four Working Groups and the Study Group established to gather and analyze the relevant information; to the many staff members of the various delegations who assisted in the preparation of this report; to Mr. Angus Oliver, who served as Staff Co-ordinator; and to Dr. Tom Grandy, who served as Consulting Editor.

This is the second occasion in recent years in which a group of Canadian regulators and policy advisers representing federal and provincial/territorial interests has conducted a joint investigation into a major national telecommunications issue. Despite the complexities of the matters being addressed, and the distinctive regional perspectives involved, the Task force believes that it has accomplished the objectives set out for it in its Terms of Reference.

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FEDERAL–PROVINCIAL–TERRITORIAL TASK FORCE

ON TELECOMMUNICATIONS

Competition in Public Long–Distance Telephone Service in Canada

Executive Summary

EXECUTIVE SUMMARY

1.0 Introduction

The Mandate of the Task Force

This document provides a summary of a study by a federal-provincial-territorial task force of telecommunications regulators and officials which examined factors that would be related to the introduction of competition in public long-distance telephone service in Canada. The report was requested by federal, provincial and territorial Ministers responsible for Communications following a ministerial meeting in Edmonton, April 2-3, 1987. The Terms of Reference of the study are reproduced in the main report of the Task Force.

Membership of the Task Force

The Task Force was comprised of representatives from the federal Canadian Radio-television and Telecommunications Commission (CRTC), and telecommunications regulatory bodies and/or governments of all provinces and territories. The Task Force was chaired by CRTC Vice-Chairman, Louis R.(Bud) Sherman.

Activities Relating to Information Collection and Analysis

Members undertook to confine the activities of the Task Force to the collection and review of information and the provision of objective analysis relating to competition in public long-distance telephone service. In this respect, members considered their role to be one of information gathering and analysis which could contribute to the policy-making role of Ministers. The process adopted was one of collecting available information, aided by staff of the respective members and, in some instances, by outside consultants. The Task Force did not seek nor did it accept the opinions of members of the general public who might have had an interest in the issue of competition in public long-distance telephone service. The approach adopted was considered not to fetter the quasi-judicial discretion of regulators participating on the Task Force, yet to assist Ministers by providing a common base of information upon which to consider and determine policies regarding competition in public long-distance telephone service.

2.0 Canadian Telecommunications Market

The Market Structure

The existing telecommunications service industry in Canada is composed of a mixture of private, governmental and joint private-governmental organizations with operational mandates varying from serving a single local area to serving the nation as a whole. The telephone companies, including the members of Telecom Canada as well as a number of independent telephone companies, form the major component of the current industry structure. They are also currently monopoly providers of public long-distance telephone service within their respective serving areas. Other telecommunications carriers include Telesat Canada, the domestic satellite carrier and a member of Telecom Canada, and Teleglobe Canada

whose effective monopoly for the carriage of overseas long-distance traffic to and from the networks of the domestic telephone companies was extended until at least 1992 during its recent privatization. Other companies such as B.C. Rail, CNCP Telecommunciations (CNCP), the radio common carriers and cellular radio telephone companies are also involved in the provision of a wide range of voice, data and messaging services. Furthermore, there are a growing number of enhanced service providers which use leased facilities to offer a range of specialized services to the public. Many of these companies currently provide services other than public long-distance telephone service in competition with the telephone companies, and they would be potential entrants if public long-distance telephone service were to be opened up to competition. Finally, there are a variety of operators of private microwave networks that might be an important element of a competitive environment if excess capacity could be resold to provide public long-distance telephone service.

Revenues from Public Long-Distance Telephone Service

The major telephone companies generated in excess of $5 billion in originated long distance revenues in 1986. Exhibit E-1 presents available information on the originated revenues for those companies. The service areas of particular interest to potential competitors are Message Toll Service (MTS - i.e., ordinary long distance telephone service) and Wide Area Telephone Service (WATS - a bulk-rated long distance service used by business). In general, intra-company originated revenues from these two service categories form the largest percentage of telephone company revenues. Inter-company, Canada-U.S. and Canada-overseas originated revenues are comparatively much smaller, on average, but for many companies they are still sufficiently large to attract competitive interest. A different perspective on long distance revenues of telephone companies is provided by an examination of settled revenues - i.e., net revenues after settlement with other companies for the joint carriage of telephone traffic (Exhibit E-2). As noted, long distance revenues constitute about 50 per cent of the total operating revenues generated by Canadian telephone companies. As a percentage of Telecom Canada company revenues, they range from a low of 47.5 per cent for Island Tel to a high of 60.1 per cent for SaskTel, indicating a high dependence on this revenue source. For Northwestel, the dependence is even higher at 61.6 per cent.

3.0 Foreign Experience with Competition in Public Long-Distance Telephone Service

Three countries, the United States, the United Kingdom and Japan, have already introduced some degree of competition in the provision of public long-distance telephone service. The Task Force, assisted by staff and consultants, investigated the nature, extent and impacts of competition in these three countries.

Competition in the United States

The key event in the United States that marked the beginning of the transition to a competitive MTS/WATS environment was the introduction of Execunet, a swit-

EXHIBIT E-1

Originated Revenues of Selected Canadian Telephone Companies from Public Long-Distance Telephone Service, 1986 (1) ($ Millions)

Telephone Company	Revenues				
	Intra-Company	Inter-Company(2)	Canada-U.S.	Canada-Overseas	L.D. Total
Nfld Tel	n/a	n/a	n/a	n/a	70
Island Tel	6	11	1	0	18
MT&T	76	73	9	6	165
NBTel	51	57	8	3	119
Bell Canada(3)	1,961	302	348	345	2,956
Manitoba Tel(4)	71	110	18	11	210
SaskTel	n/a	n/a	n/a	n/a	232
AGT(5)	257	187	36	25	505
B.C. Tel(3)	396	192	72	64	724
Terra Nova Tel	n/a	n/a	n/a	n/a	n/a
Québec-Tél	25	50	n/a	n/a	74
Télébec	10	40	2	0	52
Northern Tel(6,8)	n/a	n/a	n/a	n/a	20
Thunder Bay(6,8)	n/a	n/a	n/a	n/a	19
'edmonton tel'(6)	n/a	n/a	n/a	n/a	n/a
Prince Rupert(6)	n/a	n/a	n/a	n/a	4
Northwestel(7)	8	26	1	1	36
Total (9)	3,021	1,170	507	463	5,204
% of Total Long Distance Revenues	57.9%	22.5%	9.7%	8.8%	

Notes:

(1) Public Long-Distance Telephone Service (L.D.) = MTS, WATS & 800 Service; n/a denotes not available or confidential.

(2) Inter-company includes revenues received from services provided between two Canadian telephone companies whose serving areas are contiguous (Telecom Canada's adjacent-company category) and those from services provided between two or more companies whose serving areas are not adjacent (Telecom Canada's transCanada category).

(3) WATS and 800 Service revenues are aggregated with Intra-company.

(4) For the year ended 31 March 1987.

(5) 800 Service revenues include those originated from 'edmonton tel' territory and are aggregated with Intra-company revenues.

(6) Long distance services provided by other carriers (e.g., AGT provides long distance services to 'edmonton tel's' customers).

(7) WATS and 800 Service not offered.

(8) MTS only.

(9) Column totals include information filed in confidence. Column and row totals do not balance because not all companies provided discrete data.

SOURCE: Based on telephone company responses to information requests from Task Force members, 30 September 1987.

EXHIBIT E-2

Settled Revenues of Selected Canadian Telephone Companies from Public Long-Distance Telephone Service, 1986 (1) ($ Millions)

Telephone Company	Revenues				Total Operating Revenues	Revenues as a Percentage of Total Operating Revenues			
	Intra-Company	Non-Intra-Company(2)	Other (3)	L.D. Total		Intra-Company	Non-Intra-Company	Other	L.D. Total
Nfld Tel	n/a	n/a	n/a	79	146	n/a	n/a	n/a	54.2%
Island Tel	6	11	0	17	36	15.7%	31.9%	0.0%	47.5%
MT&T	76	94	0	171	333	23.0%	28.3%	0.0%	51.3%
NBTel	51	79	1	131	258	19.8%	30.5%	0.4%	50.8%
Bell Canada (4)	1,792	1,086	0	2,878	5,946	30.1%	18.3%	0.0%	48.4%
Manitoba Tel (5)	71	117	3	191	377	18.8%	31.1%	0.7%	50.6%
SaskTel	n/a	n/a	n/a	270	450	n/a	n/a	n/a	60.1%
AGT (6)	291	264	8	563	1,066	27.3%	24.8%	0.8%	52.8%
B.C.Tel (7)	322	402	0	724	1,347	23.9%	29.8%	0.0%	53.8%
Terra Nova Tel	9	14	0	23	44	21.3%	30.7%	0.0%	52.0%
Québec-Tél	25	74	1	99	183	13.5%	40.3%	0.6%	54.3%
Télébec	10	50	3	62	114	9.0%	44.0%	2.2%	54.5%
Northern Tel	n/a	n/a	n/a	11	29	n/a	n/a	n/a	39.3%
Thunder Bay	n/a	n/a	n/a	9	23	n/a	n/a	n/a	37.8%
'edmonton tel' (8)	n/a	n/a	n/a	32	238	n/a	n/a	n/a	13.2%
Prince Rupert	n/a	n/a	n/a	1	6	n/a	n/a	n/a	16.7%
Northwestel	8	28	3	39	64	13.1%	43.1%	5.3%	61.6%
Total (9)	2,822	2,399	28	5,301	10,660	25.3%	22.5%	1.4%	49.7%

Notes: (1) Public Long-Distance Telephone Service (L.D.) = MTS/WATS & 800 Service; n/a denotes not available or confidential.

(2) Non-Intra-company includes settled revenues from services provided between two Canadian telephone companies (Telecom Canada's adjacent-company and transCanada categories) as well as Canada-U.S. and Canada-overseas.

(3) Other includes the company's share of settled revenues with independent companies, transCanada and Canada-U.S. traffic.

(4) Intra-company includes Bell Canada's share of settled revenues from Bell/independent company traffic.

(5) Manitoba Tel figures are for the year ended 31 March 1987.

(6) Before additional payments (payable by Telecom Canada companies, estimated at $30.5m) due retroactively to 'et' under the Arbitration Decision (28/2/87).

(7) Non-Intra-company includes all WATS and 800 Service settled revenues. Intra-company includes only MTS.

(8) Pursuant to Arbitration Decision (28/2/87).

(9) Column totals include information filed in confidence. Column and row totals do not balance because not all companies provided discrete data.

SOURCE: Based on telephone company responses to information requests from Task Force members, 30 September 1987.

ched interstate long distance service, by MCI in 1974. The Federal Communications Commission (FCC), which regulates interstate communications, refused MCI's Execunet tariff, but MCI sought recourse through the courts and succeeded in having the FCC order overturned. The Court ruled that the FCC had never made an affirmative determination that the public interest required a monopoly provider for interstate long-distance telephone service. Thus, by 1978 the interstate MTS/WATS market had been effectively opened to competition.

Following the Court's intervention in the Execunet case, the FCC opened Docket 78-72, an inquiry to examine the possible effects of competition in switched public long-distance telephone service and to determine whether the public interest required that MTS/WATS be provided on a monopoly basis. The FCC found in favour of open entry in the domestic MTS/WATS market. This same policy was later extended to the international MTS/WATS market. In summary, the FCC moved from allowing only limited competition in private line services and terminal equipment in the early 1970s to permitting wide-open entry with reduced regulation at the present time.

To that end, the FCC has classified communications common carriers as either "dominant" or "non-dominant" in their respective markets. Only dominant carriers are subject to traditional rate base rate-of-return regulation. The FCC currently regulates only AT&T as a dominant carrier in the interstate communications market. In the international MTS/WATS market, only AT&T and foreign carriers are considered to be dominant. Other (non-dominant) carriers are free to enter and exit either of these markets, and they may build or acquire facilities, introduce new services and set rates without regulatory intervention.

Divestiture and Equal Access

A major event that marked a turning point in the structure of the U.S. industry and the manner in which competition could take place was the January 1982 settlement of an antitrust suit brought by the U.S. Department of Justice against AT&T. The Justice Department had earlier charged that AT&T, particularly through its control of equipment manufacturing and local telephone exchanges, had engaged in predatory behaviour. The agreement between the Department of Justice and AT&T was given effect through a court-sanctioned Modification of Final Judgment (MFJ), which went into effect on January 1, 1984, and resulted in AT&T divesting itself of its 22 local Bell operating companies (BOCs). The BOCs were then consolidated into seven independent regional Bell holding companies, and their serving areas were reorganized into 161 Local Access and Transport Areas (LATAs). The MFJ also prohibited the BOCs from entering the information services and customer premises equipment manufacturing markets. They were, however, permitted to publish "Yellow Pages" directories and to offer local and long distance services within LATAs, including access services to other carriers providing long distance services. AT&T was left with Long Lines (its long distance telephone service division), Bell Labs (R&D) and Western Electric (telephone equipment manufacturing). AT&T was precluded from using its own transmission facilities to provide electronic publishing services for a seven-year period, although it was permitted to compete in any other communications-related markets.

An important condition of the MFJ was that the BOCs offer "equal access," in all local exchanges having 10,000 or more subscriber access lines, to any long distance carrier authorized to provide interLATA service. Under this provision, the BOCs were required to provide switched access to customers for all such carriers on the same terms and conditions. The Federal Communications Commission (FCC) further required that, as equal access became available, earlier arrangements whereby non-AT&T carriers received substantial carrier access charge discounts from the BOCs would be phased out. The Court's and the FCC's intention was to create a "level playing field" for all long distance carriers.

Interstate Access Charges

An Access Charge Plan has been developed by the FCC which has three main elements: first, a flat-rate Subscriber Line Charge to be paid by all business and residential users to help recover that portion of non-traffic sensitive costs allocated to the interstate jurisdiction; second, a Carrier Common Line Charge to be paid by long distance carriers to cover the remainder of non-traffic sensitive costs allocated to interstate and not recovered directly from subscribers; and third, a traffic sensitive charge component relating to the direct costs of carrier interconnection and delivery of MTS/WATS traffic to long distance carriers from within a LATA. The institution of the FCC's Access Charge Plan left the BOCs (and the independent telephone companies) largely unaffected by interstate MTS/WATS competition in respect of revenue flows from the interstate jurisdiction. The FCC has gradually increased the Subscriber Line Charge, correspondingly decreased the Carrier Common Line Charge, and it has required AT&T to pass on a portion of its savings to customers through lower interstate long distance charges. The other long distance carriers have followed suit. Thus, FCC-ordered regulatory adjustments of this nature have significantly contributed to interstate long distance rate reductions and flat-rate local subscriber charge increases experienced in the United States. The LATA system, equal access and the FCC's Access Charge Plan constitute key elements of the U.S. approach to competition in interstate long distance service: The LATA system enables competitors entering any given LATA to make their services available throughout the LATA, while the Access Charge Plan is designed to ensure that local telephone companies will be compensated for providing competitors with access to their customers.

Competition at the State Level

Competition in public long-distance telephone service in the United States has so far been presented as an interstate phenomenon. In recent years the states, which individually control and regulate intrastate telecommunications, have increasingly introduced competition into intrastate public long-distance telephone service as well. Most multi-LATA states have permitted competitive entry into their interLATA markets, and they have adopted carrier access charges generally modelled on the FCC's plan. Some states have also begun to re-evaluate the view of the intraLATA market as a natural monopoly and to consider some degree of intraLATA long distance competition.

Entrants and Their Performance

Over 500 long distance carriers, mostly resellers, currently provide interstate and intrastate long-distance telephone service. The main players are the three largest facilities-based carriers, namely, AT&T, MCI and US Sprint. AT&T remains the dominant long distance carrier. Excluding the local telephone companies, which provide a certain amount of intraLATA long distance calling, AT&T's share of long distance operating revenues was estimated at 72.5 per cent of the total 1986 domestic long distance market; MCI had 13.6 per cent, and US Sprint had 7.7 per cent. All other carriers shared the remaining 6.2 per cent. In the period 1984 to 1987, AT&T's annual total operating revenues remained relatively constant at approximately $33-34 billion. Net income fluctuated from a low of $139 million in 1986, due to a major allocation for workforce reductions and facilities consolidation, to just over $2 billion in 1987. MCI has increased its total operating revenues from approximately $2 billion in 1984 to $3.9 billion in 1987. It has generated a positive net income in all years from 1984 to 1987, except for 1986 when it experienced a loss of $448 million. Total operating revenues for US Sprint since its formation on July 1, 1986 were approximately $1.14 billion in 1986 and $2.6 billion in 1987. US Sprint experienced losses of $357 million before income taxes in 1986 and just over $1 billion in 1987.

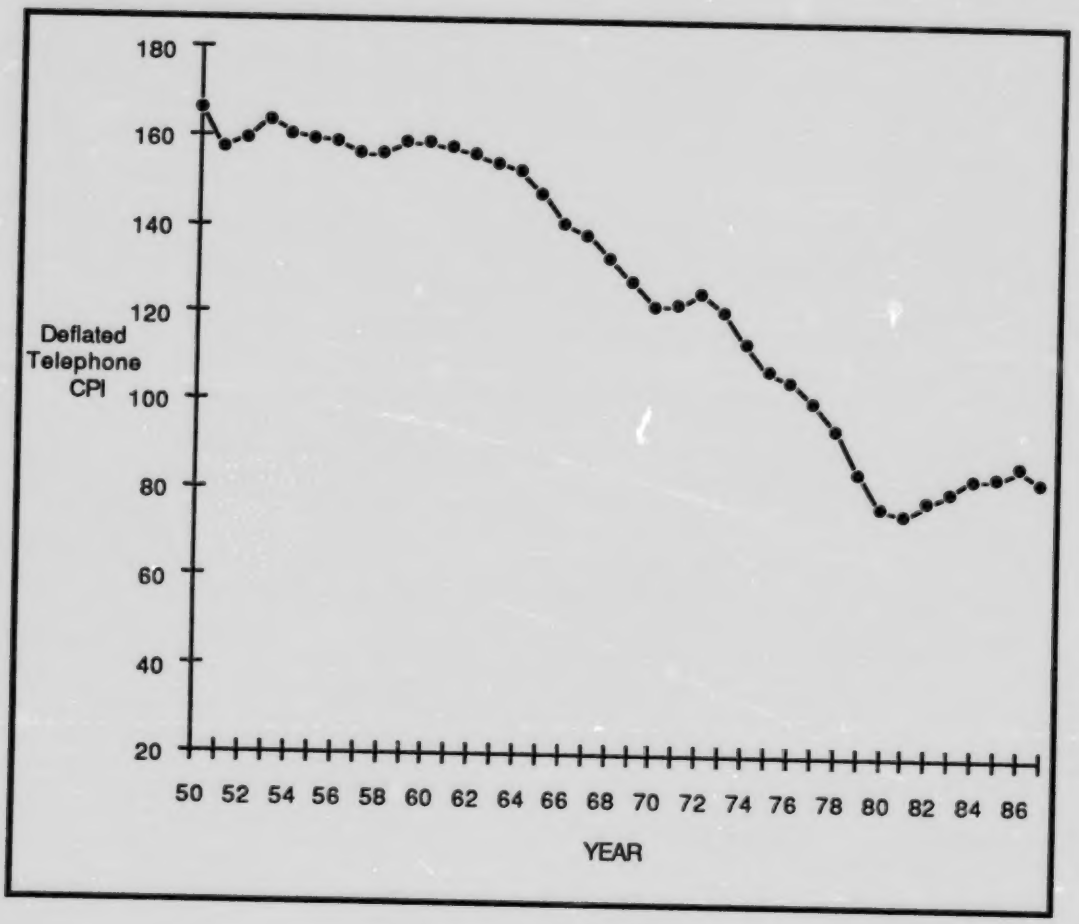
The Impacts of Competition in the United States

The U.S. has experienced substantial telephone rate changes in recent years. As already noted, however, much of this change is attributable to regulatory initiatives. Recently, as well, corporate income tax reductions have affected revenue requirements and, hence, telephone service rates. The index of overall telephone service charges deflated by the Consumer Price Index (CPI) for all goods and services, which had shown a general long-term decline, turned around after 1981 and began increasing until 1986 (Exhibit E-3). Thus, nominal telephone service prices during the period 1981-1985 increased at a rate faster than the general CPI. Various components of the telephone index have changed dramatically (Exhibit E-4). The local service and interstate and intrastate long distance price indices all declined at about the same rate between 1977 and 1980. The local service price index increased substantially after 1980, indicating real local price increases. In contrast, dramatic decreases have occurred in the interstate long distance price index since 1982, with smaller decreases in the intrastate index after 1984.

Despite higher monthly local rates, telephone service penetration in the United States has not suffered; in fact, it has actually increased. This increase may be attributed in part to measures taken by the FCC to mitigate any potentially adverse effects of its decisions. Specifically, the FCC has instituted programs to supplement state lifeline programs as well as developing a Universal Service Fund to help subsidize the cost of rural and other high-cost area exchange facilities.

Exhibit E-3

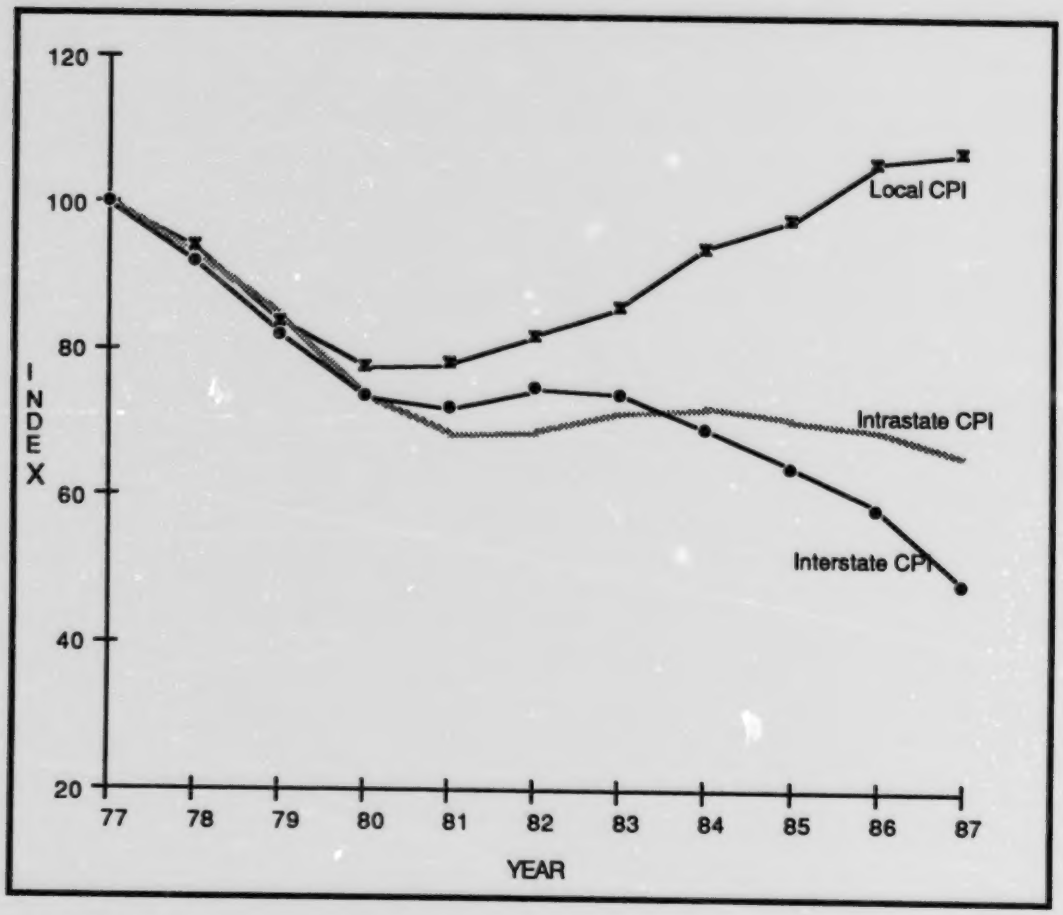
U.S. Telephone CPI Deflated by Total CPI
(Base Year 1977)



SOURCE: David Chessler and Associates, study commissioned by the Task Force.

Exhibit E-4

Deflated U.S. Telephone Price Indices
(Base Year 1977)



SOURCE: David Chessler and Associates, study commissioned by the Task Force.

Competition in the United Kingdom

Licensing of Public Telecommunications Operators

In 1981 and 1984, respectively, the U.K. took legislative action to introduce (limited) competition into the provision of domestic and international telephone service. Parallel to this, the telephone industry in the U.K. was privatized, and a system of licensing Public Telecommunications Operators was created. Licences have been issued to two main telecommunications carriers, namely, British Telecommunications plc (comprising the privatized telecommunications services of the National Post Office) and a new entrant, Mercury Communications Ltd., a fully-owned subsidiary of the similarly privatized Cable and Wireless plc. Entry is tightly controlled by the current licensing process and the U.K. government has indicated that no further entry for the provision of telecommunications services will be allowed before 1990.

Mercury's Competitive Activities

Since its entry into the telecommunications field in 1982, Mercury has established an extensive intercity network throughout England and Scotland. In addition, it has constructed local networks in certain parts of several key cities and established earth stations for international service. It was not until 1985, however, that outstanding issues regarding the interconnection of British Telecom's and Mercury's networks were resolved by government intervention. As a consequence, Mercury only began providing public-switched telephone service in 1986.

Whereas the licence issued to British Telecom, as the dominant carrier, obligates it to provide universal telecommunications services throughout the U.K., Mercury has no similar obligation. Rather, its licence permits it to serve those areas of the U.K. where it believes it would be economically feasible to do so. Nevertheless, Mercury reported in October 1987 that its services were available to an estimated 65 per cent of the U.K. population. Access to the Mercury network was, in fact, available at that time in more than 70 access areas throughout the U.K.; 23 additional areas were added during the winter of 1987-1988.

Competitive Performance Under Competition

British Telecom's total operating revenues increased from approximately £6 billion in 1983 to about £10 billion in 1988. In this same period, net income has increased overall by some 44 per cent, reaching approximately £1.5 billion in 1988. Mercury's total operating revenues fluctuated from £0.2 million to £13 million over the 1983-1987 period. Despite negative net operating revenues in each year, Mercury has generated a positive net income since 1985, largely as a result of income tax credits.

No reliable data are available to indicate the market share attained by Mercury. A comparison of total operating revenues, however, indicates Mercury's revenues in 1987 to be only £13 million versus just over £9 billion earned by British Telecom. Mercury has, however, made some inroads into British Telecom's customer

base, particularly among major business subscribers, many of whom are now customers of both companies.

Rate Changes in the United Kingdom

British Telecom's rates are established on the basis of a price control formula which provides that the company's overall average price increases are not to exceed the rate of inflation less 3 per cent, determined retrospectively. Within the confines of this price formula, since 1984 British Telecom's short-haul rates have been increased in both peak and discount periods, while its longer haul rates have been decreased. On a weighted average basis, British Telecom's long distance rates were increased by 2 per cent and 3.7 per cent in 1984 and 1985, respectively, and decreased by 0.3 per cent in 1986. British Telecom's local rates have been generally increased over the past several years. In 1986, however, British Telecom responded to local service competition in London from Mercury by lowering its peak local rate in that area. In general, Mercury has priced its local and long distance services below those of British Telecom.

In the majority of cities where Mercury provides services, it uses British Telecom's local network for access to customers. British Telecom charges Mercury only the direct costs of interconnection, both one-time and ongoing. It does not (as the U.S. has done in its Access Charge Plan) require any contribution towards the non-traffic sensitive costs of subscriber access.

Competition in Japan

New Industry Structure

On April 1, 1985, Japan implemented laws which created a competitive industry structure and reorganized Nippon Telegraph and Telephone Public Corporation (NTT), the previous monopoly supplier of domestic telephone service, as a privately-owned company. Under the new industry structure, Japanese telecommunications carriers have been divided into two categories: Type I carriers, which provide telecommunications services through their own circuit facilities; and Type II carriers which provide telecommunications services by acquiring telecommunications circuit facilities from Type I carriers. Type II carriers are subdivided into two additional categories, namely, Special Type II carriers with large scale nation-wide operations or which provide services between Japan and foreign points, and General Type II carriers. Entry and tariff controls vary with the type of carrier. Type I carriers must seek permission from the Ministry of Posts and Telecommunications to construct telecommunications facilities. Special Type II carriers must register with the Ministry, whereas General Type II carriers are required only to notify the Ministry of their intent to provide service. Control of tariffs likewise varies from authorization for Type I carriers, to notification for Special Type II carriers, to no regulation for General Type II carriers.

In regard to foreign ownership, Japanese law requires that less than one-third of the shares of a Type I carrier may be held by foreigners, with the exception that none of the shares of NTT and Kokusai Denshin Denwa Company, Limited

(KDD), the former monopoly supplier of international telecommunications services, may be foreign owned. In contrast, no restrictions on foreign ownership apply to Type II carriers.

The Nature and Extent of Entry

At the end of 1987, there were 31 licensed Type I carriers and as of November 1987, there were 17 Special Type II carriers and 452 General Type II carriers. Of the 31 Type I carriers, 18 were radio paging companies. The remaining 13 comprised NTT, KDD, three relay carriers providing long distance telephone services and leased services, four regional carriers providing primarily leased services, three satellite companies with plans to provide leased services in 1989, and two international carriers with plans for international telephone services and leased services to be offered in 1989–1990.

The 17 Special Type II carriers offer primarily nation–wide packet switching or data transmission, domestic circuit resale and switched telephone service using leased networks. Many are Value Added Network (VAN) operators – that is, they add value to the basic transmission facilities that have been leased from Type I carriers.

The 452 General Type II carriers are spread throughout Japan, although almost half of them are located in or near Tokyo. They offer a variety of voice, data and video services. Voice services consist primarily of voice mail or leased line service, so that they are not significant competitors in the switched long–distance telephone service market.

Impact of Competition on Rates

Prior to the introduction of competition in Japan, the rate structure of NTT was characterized by wide price differentials between long distance and local services. Cross–subsidies were perceived to exist from long distance to local service. Despite this pricing imbalance and the opportunity to underprice, new entrants have not lowered their rates more than 20 per cent below those of NTT. Furthermore, NTT charges other carriers only for the direct costs of accessing its local networks and it has not instituted an access fee to make up for any loss of contribution to local service. In fact, NTT has indicated that if telephone charges levied by the new carriers are within 20 per cent of those of NTT, then NTT will not levy carrier access charges. The Japanese telecommunications market is growing fast and it is considered that there is room for all to compete without instituting the type of measures adopted by the United States.

4.0 Competition or Monopoly – The Overall Factors Affecting the Choice

Various technical, operational and economic factors were reviewed that may justify the provision of public long–distance telephone service on a monopoly versus a competitive basis. The Task Force was assisted in gathering information on this subject by a number of consulting projects carried out at its request.

Technical and Operational Aspects of Competition

Canadian telephone companies appear to have kept pace with international technological developments, and they have built one of the most modern and functionally efficient telecommunications networks in the world. A key question facing Canadian policy makers is whether competition or a continued monopoly over long distance services would best foster future technical and service innovation and result in improved services to the public in general.

A consulting report on selected impacts of competition in the U.S. provides some insights on this question. It indicates that competition has resulted in significantly increased innovation in pricing arrangements. The aggregate effect has been to create a range of private line and switched network services more closely paralleling customer requirements and pricing expectations than previously. The experience has not, however, been entirely positive. The report indicates that the new U.S. telephone industry structure has created additional confusion and complexity. For example, billing arrangements are more complex. In addition, for business customers, competition in private line services and fragmentation of that market have introduced complexities that could result in delays in service ordering, billing errors and confusion concerning tariff structures. Technological developments in the telecommunications industry have been strong and accelerating in recent years, although the pace of this development is difficult to attribute specifically to either the presence or absence of competition in any market segment. Technological development has focused on the introduction of digital transmission facilities and the installation of high-capacity fibre optic networks.

The Task Force was unable to find conclusive information indicating what impact MTS/WATS competiton has had on research and development in the United States. There are some concerns that lessened co-ordination among carriers and the reluctance to share strategic information could impede the development and implementation of new systems and standards, and lead to an emphasis on short-term pay offs and avoidance of longer term development projects. Some observers suggest, however, that competition will stimulate research and development by providing clear market incentives to carriers to be the first to develop new systems and improve performance. In regard to finding information linking research and development to competition, the situation in the U.S. is complicated by the fact that AT&T's divestiture changed the way research and development is conducted by AT&T and the Bell operating companies.

Quality of service in the U.S. has also changed over time. When competition was first introduced, carriers other than AT&T did not have comparable access to local exchanges. Customers complained of problems related to repeated dialling to complete calls, billing errors and signal quality. With equal access differences between carriers have effectively disappeared and customers' concerns have abated. Additionally, with equal access rate differentials have narrowed and carriers must compete more on other aspects of service differentation.

Cost Impacts of Competition on the Industry

Competition could have direct effects on the costs of providing public long-distance telephone service to Canadians. Three key areas bearing on the cost structure of the industry are: economies of scale and scope, productivity change, and the direct costs to the telephone companies of providing competing carriers with access to their local networks.

Economies of Scale and Scope

A consulting study was commissioned by the Task Force to examine the influence of expected technological change on economies of scale and scope in long distance telecommunications. The study was conducted through analysis of available Canadian and U.S. information in four areas: engineering information regarding present and projected long distance network transmission and switching technologies, primarily digital switching and transmission and fibre optics; financial information; cost accounting information; and econometric studies.

The concepts of economies of scale and scope can be used to define the requirements for the existence of a natural monopoly. Specifically, an industry is defined to be a natural monopoly if a single firm is able to produce the industry output at a lower total cost than any two or more firms. This condition may exist when either economies of scale or scope are present; however, either one by itself does not guarantee a natural monopoly. If both scale and scope economies exist, then a natural monopoly is assured. In this respect, the Task Force found convincing the engineering information provided by the consultant which suggests the existence of economies of scale in the transmission network, but it noted that only a limited portion of a firm's costs are included in this category. The Task Force considered that other information is inconclusive with respect to both scale and scope economies; nor does it address all other factors that are relevant to the natural monopoly question. Consequently, the Task Force has concluded that the available information is insufficient to resolve the question of whether the Canadian long-distance telephone market constitutes a natural monopoly.

The Impact of Competition on Productivity

The Task Force sought to determine what impact competition in the provision of public long-distance telephone service would have on productivity. In this context, productivity is deemed to increase where the cost per unit of output decreases. Empirical evidence was available which demonstrated that there have been substantial productivity gains in the Canadian, U.S. and U.K. telecommunications industries in the past two decades. However, only limited empirical evidence was available to distinguish the various factors that may influence productivity, including technological change, economies of scale and scope, regulatory change and competition.

Theoretical arguments and microeconomic studies suggest that, all other things being equal, efficiency at the firm level should be greater in a competitive versus a monopolistic environment. However, the Task Force was unable to find any conclusive empirical evidence to support this conclusion with respect to telephone

companies. Where there are such efficiencies at the firm level, they could be offset by the loss of economies of scale.

A consulting study commissioned by the Task Force found the U.S. literature to be inconclusive as to the effects of competition on telecommunications productivity. Empirical research conducted by the consultant on this issue was also inconclusive. Other recent changes in the U.S. industry, including divestiture and a variety of regulatory initiatives, may also have affected productivity levels, thus making it difficult to isolate any impacts of competition.

In the absence of a reliable quantitative measure of the impact of productivity that could be used in its financial modelling of competition, the Task Force instead adopted the approach of identifying what specific productivity gains would need to result from competition in order to offset the revenue impacts of competition on each telephone company.

Costs of Carrier Access

Competitive entry into the public long-distance telephone service market in Canada would require telephone companies to incur costs to modify their existing networks so as to provide competitors with access to their customers. The Task Force found that the network modification costs would be zero if alternative service suppliers used the rudimentary form of interconnection employed in the U.S. when competition first emerged. As a first approximation, with improved interconnection, total industry costs of network modification would range from approximately $1 million to approximately $213 million (1990 dollars) depending on the form of access and the number of local exchange areas, including extended area service, where the competitor's services were available. The total modification costs for equal access would range from approximately $98 million for local exchange areas with 100,000 or more network access services to approximately $209 million for all local exchange areas.

The ongoing costs of carrier access would be approximately two cents per minute, at both the originating and terminating ends of a long distance call, except for the equal access option where an additional cost would be introduced associated with the administrative work of indicating the carrier of first choice. The magnitude of this additional cost is uncertain since the amount of annual turnover would strongly influence the cost. Total annual ongoing costs would range from approximately $28 million to approximately $122 million (1986 dollars), depending primarily on the number of local exchanges involved and the market share gained by the competitor (a maximum 20 per cent market share was studied).

It should be noted that while certain of these costs would be incurred only if competitive entry were allowed, others would be incurred whether or not competition were permitted.

Price Elasticity of Demand

The price elasticity of demand is a key element in estimating the revenue impact of competition on telephone companies. Price elasticity of demand is a measure of the responsiveness of quantity demanded to changes in price, holding all other factors constant; it is defined as the percentage change in the quantity demanded of a product divided by the percentage change in the price of that product. Thus, if all long distance rates were to be reduced and if the price elasticity of demand is elastic (i.e., if the value of the elasticity over the relevant range of the demand function is greater in absolute value than one) then, other factors held constant, the overall (total market) revenues would increase and there would be a bigger "pie" to be shared by the telephone companies and new entrants. If demand is inelastic (i.e., the absolute value of the price elasticity of demand is less than one), then overall (total market) revenues would decline if long distance rates were reduced. To the extent that competition induced lower rates for both existing and new service providers, the revenue impacts on the market could be either positive or negative depending on whether demand is elastic or inelastic.

The Task Force was assisted in gathering information on the price elasticity of demand by a consulting study which reviewed and critically assessed the available literature concerning the price elasticity of demand for public long-distance telephone service in Canada. The consultant concluded that the most plausible estimates of the price elasticities of demand of various components of public long-distance telephone service are as follows:

Intra-company MTS	:	-.5	to	-.7
Inter-company MTS	:	-.55	to	-.85
Canada-U.S. MTS	:	-.65	to	-1.00
International MTS	:	-.6	to	-1.20.

The consultant noted that the estimates of MTS elasticities actually represent a hybrid of the impacts of changes in MTS prices as well as WATS prices.

The mid-points of the price elasticity of demand ranges estimated by the consultant were utilized in the financial modelling of competition in public long-distance telephone service in Canada. These values are inelastic, such that the total revenue impact of reduced rates would be negative - i.e., whereas consumers might enjoy lower rates, long distance services in total would generate lower revenues.

The Macroeconomic Impacts of Competition

The Task Force reviewed available Canadian and U.S. macroeconomic studies to determine the probable impacts of competition in public long-distance telephone service on the Canadian economy as a whole. A variety of studies have been conducted, primarily to determine the macroeconomic effects of changing telephone rate structures in defined ways. The results of these studies, however, cannot be utilized to indicate conclusively the effects of competition on the economy. The macroeconomic models used in these studies require as input an estimate of the change in the aggregate telecommunications price level resulting from the issue

under study. As noted earlier, determination of changes to the aggregate telecommunications price level as a result of competition is a complex matter which should take into account the rate structure before and after competition, productivity effects, changes due to economies of scale and scope, stimulation of demand which may affect revenues and hence rates, etc. Available evidence is inconclusive as to the relationship between competition and some of the factors that could affect the aggregate telecommunications price level. It is therefore not possible to conclude from available evidence whether or not allowing long distance competition would lead to positive or negative macroeconomic benefits.

Just the same, the results of these studies are useful in assessing some of the potential macroeconomic impacts of competition. To the extent that competition would lead to rate restructuring (either long distance rate reductions or long distance rate reductions together with offsetting monthly local rate increases, leaving the telephone companies unchanged as to overall profitability), these studies generally indicate that macroeconomic benefits could be expected. However, it should be emphasized that the studies reviewed indicate the effects that would result from rate restructuring only – something that could be achieved even in the absence of competitive entry. Members of the Task Force also express caution that the results of these studies should be used in cognizance of the underlying assumptions.

5.0 The Nature of Competitive Entry into the Long Distance Telephone Service Market in Canada

The competitive environment was examined in terms of potential competition models, the effect of competition on the universal availability of affordable telephone service, potential new entrants and specific competition scenarios.

Competition Models for Canada

Three broad competition models were considered for Canada: (a) an unregulated competitive market; (b) a fully regulated market; or (c) an intermediate model involving regulation of only the dominant carriers. The main characteristics of each are outlined below.

Unregulated Competitive Market Model

A completely unregulated competitive market in which all carriers, i.e., telephone companies and new entrants, would be free to compete largely without regulatory controls represents a scenario at one end of the range. In this scenario, regulation of remaining monopoly services, such as local telephone service, would still be required as would careful monitoring to detect any incidence of cross-subsidization from monopoly to competitive services.

In such an environment, there would be pressure to move towards competitive market pricing. In this respect, it is generally expected that long distance rates would be substantially reduced. This would, in turn, create pressure for increased rates for those services presumed to be priced below causal costs, even though

they were provided on a monopoly basis. This process of rate adjustments could also be achieved by a deliberate rebalancing of local and long distance rates as has been proposed by some telephone companies. Carriers would likely seek flexible pricing arrangements in response to competition. For instance, new entrants could be expected to concentrate on high-density routes, creating pressures on telephone companies to deaverage existing rates geographically. Thus, contrary to current practice, high-density routes between major population centres might eventually be priced lower than low-density routes, for example in rural and remote areas.

Additionally, carriers could be expected to institute a wider range of volume discounts than are currently available, develop special sales programs and, in some cases, employ contractual arrangements rather than general tariff rates. The foreign experience indicates that current off-peak discounts might also change with relatively lower discounts being offered, for instance, during evening and night-time periods.

A study conducted at the request of the Task Force indicated that new facilities-based carriers would require, at least over the start-up period, a price advantage relative to the telephone companies in order to enter the long distance marketplace and survive. No combination of service features or other non-price benefits would enable facilities-based carriers to compete without such a price advantage. Based on subscriber expectations, price reductions of at least 10 per cent, with minimal non-price impediments, would enable a new entrant to capture an appreciable market share.

Dominant Carrier Regulation Model

Dominant carriers may be defined as those service providers able to exercise market power (e.g., having the ability to set prices so as to earn supranormal profits or to engage in predatory pricing or price discrimination). In contrast, non-dominant suppliers are unlikely to be able to exercise market power and, consequently, the requirement for traditional public utility regulation may be called into question. Under this model, if long distance competition were permitted, the telephone companies would continue to be regulated, while new entrants would likely be free from regulation.

In this model, regulators would have the means to impose, particularly on dominant carriers, the obligation to serve, entry and exit criteria and quality of service requirements. The obligation to serve could require restrictions on the dominant carrier's ability to exit, or limit its involvement in, the long distance market. In order to meet price non-discrimination objectives, it could also be necessary to require continuation of route and rate averaging practices. In addition, uniform pricing, minimum levels of service quality and the provision of services equally throughout carriers' serving areas might be deemed necessary. These requirements could be placed on dominant carriers through regulation. In the case of non-dominant carriers, two approaches would be possible: first, to allow the marketplace to decide and, secondly, to impose obligations through a licensing process.

If traditional rate-of-return regulation were maintained for dominant carriers, the firm's ability to react to market conditions could be limited. Consequently, a number of alternatives have been considered which would allow dominant carriers increased flexibility in responding to market conditions. First, carriers could operate within the bounds of price caps, which limit the extent of price increases on services after accounting for inflation and expected productivity gains. Second, a social contract approach could be adopted in which the telephone company would limit local rate increases in return for reduced regulation in other areas, such as long distance service. Third, incentive-based regulation might be adopted in which the company would be permitted to retain a portion of "extra" profits from socially and/or economically desirable activities. A full analysis of the advantages and disadvantages of each alternative would be required before their utility in a Canadian environment could be considered.

Fully Regulated Market Model

This model provides an alternative in which all market participants would be fully regulated. Its benefits include a minimum of disruption in rate movements and the ability of regulators to control all aspects of entry, exit and service provision. On the negative side, regulatory costs could increase and there might be less incentive to cut costs and innovate. Additionally, rate regulation and particularly a requirement for prior notification and review of rate changes, would tend to inhibit rapid response to market conditions.

Competition and Universal Availability of Affordable Telephone Service

A major concern that has been expressed in considering the issue of competition in public long-distance telephone service is its potential impact on the maintenance of universal availability of affordable telephone service. To the extent that competition could lead to reduced long distance revenues for telephone companies, and particularly reduced contribution to the recovery of subscriber access costs, local rate increases could be required. A number of approaches are outlined below that could serve either to reduce the magnitude of local rate increases or, alternatively, alleviate in part their impact.

Carrier Contribution Charges

Competing carriers could be required to contribute through explicit charges set by regulators so as to ensure maintenance of low local rates. Thus, contribution made by long distance services towards the recovery of subscriber access costs would continue to be made by contribution payments from competitors and telephone companies.

Contribution payments could be recovered from competitors either through a flat monthly rate per interconnection facility, by a per-minute charge based on the competitor's traffic, or as a percentage of competitor revenues. A flat monthly rate would be the simplest to administer, but it might not accurately reflect actual contribution requirements since competitors' traffic per line may vary over time, by service type, by competitor and by competitor maturity. A per-minute charge would require a reliable method of measuring traffic and an acceptable figure for

the per-minute contribution implicit in telephone companies' rates. The first two methods might also give rise to incentives to bypass entirely the telephone company's local network and thereby avoid paying any contribution charges at all. The third method, that of basing contribution payments on the competitor's revenues, would avoid the bypass threat, but it might be difficult to administer in cases where the competitor provided a range of services, each requiring a different contribution, or where it had other revenue sources.

The level of contribution charges could be set at that level imputed for telephone companies or it could involve some degree of discount. The issue of a contribution discount arises, as indicated earlier, from the fact that new entrants would require a price discount to enter the long distance marketplace and survive, at least over the start-up period. If such a price discount were permitted by the regulator, reduced carrier contribution charges are a possible means for its implementation. If such a discount were permitted, a contribution deficit would result which could lead to higher local rates.

The Obligation to Serve

If competition were permitted, an issue arises as to whether the obligation to serve currently placed on telephone companies should be removed, shared or continue to be imposed on the original and generally dominant carrier, as a service provider of last resort. In a competitive environment, subscribers in low-density, high-cost areas might face the possibility of higher long distance rates relative to users along routes attractive to competitors. Regulators might choose to obligate telephone companies to continue providing services. They could be compensated for such obligation through additional contribution payments from competitors. Additionally, regulators could require facilities-based competitors to provide universally available service via network extension or resale. However, an obligation to extend networks on low-density routes could be perceived as requiring inefficient investment in, and duplication of, competitors' facilities.

Pricing Mechanisms to Minimize Adverse Effects on Users

A number of pricing and related mechanisms could be used to minimize any adverse effects of increased charges for local telephone service. Three mechanisms were explored by the Task Force: lifeline services, budget services and local measured service. Lifeline services involve the provision of local exchange service to low-income households on a subsidized basis. Such mechanisms might include support for one-time installation and like charges with which low-income households appear to have more difficulty than with ongoing monthly charges. Lifeline services, if judged applicable for Canada, could be funded (indirectly) by customers of the telephone companies and competing carriers. Alternatively, governments could reimburse telephone companies for the costs of providing lifeline services such that taxpayers in general would be responsible for the funding.

The availability of low-cost budget services such as multi-party service could enable those affected by higher local rates to retain a form of basic service. The

CRTC has established two-party residential service as a budget service to promote universal access. However, provincial regulatory boards generally view two-party service as a substandard service and consider the costs of providing such service, in a predominantly individual-line service environment, to exceed those associated with the provision of individual-line service. As such, they do not consider two-party service to be practical as a budget service.

Local measured service provides an option based on charging for each local call, whereby users can control local service expenditures by choosing the number of calls they deem essential and that they can afford. Although local measured service may be an effective mechanism to alleviate the adverse effects of higher flat-rate local service charges for lower usage, low-income subscribers, the implementation costs and possible negative public reaction may make it infeasible in the Canadian context for the foreseeable future.

Potential New Entrants into a Competitive Marketplace

There are two types of potential new entrants into the public long-distance telephone service market: facilities-based carriers and resellers. In the first case, new entrants would compete by using their own facilities; in the second, new entrants would resell the facilities and services of existing carriers and new facilities-based entrants. In actual fact, the distinction between the two types of entrants would not be clear cut. Many entrants could be expected to utilize a mix of facilities-based and resold services. It is assumed that all new entrants would use the local facilities of the telephone companies to permit customers to access their long distance services.

Potential facilities-based entrants include the existing common carriers, such as B.C. Rail, Cantel, CNCP, Telesat Canada and, to some extent, the telephone company-affiliated cellular telephone service providers. Other potential facilities-based entrants include new carriers which might invest in their own fibre optics or digital microwave systems, particularly on high-density intercity routes. A different class of new facilities-based entrants could include the cable companies and hydro or other such companies that already have extensive private intercity microwave facilities. The possibility exists, as in the U.S., for the emergence of regional wholesale service providers (i.e., carriers' carriers) which would lease facilities on a wholesale basis to long distance carriers. The cable, hydro and other companies as well as Telesat Canada could, for example, choose to operate in this fashion.

Resale is still relatively new in Canada, and it is currently limited to reselling the facilities and services of federally-regulated carriers to provide non-MTS/WATS services. As a consequence, it is not possible to project what companies might be potential resale entrants in the Canadian MTS/WATS market. The experience with competition in the U.S. and Japan suggests that a large number of resellers would likely consider entering the market under the present pricing structure for long distance services.

Specific Competition Scenarios for Canada

The impacts of competition would depend in part on how competition was specifically permitted to occur. The following presents a number of competition scenarios which focus on geographical, jurisdictional and industry structural issues that could shape the specific nature of competition in Canada.

Three scenarios are considered under this category. The first scenario, termed "extra-provincial/extra-territorial" competition, would involve the introduction of competition uniformly across the country for only the extra-provincial/extra-territorial aspects of public long-distance telephone service. That is, only the current inter-company, Canada-U.S. and Canada-overseas long distance traffic would be competitive and, in the first instance, intra-provincial/intra-territorial long distance traffic would not be competitive. In the case of companies such as Bell Canada and Northwestel, whose serving areas cover more than one province or territory, competition would be introduced on an extra-company basis. In theory, it would be possible to implement extra-provincial/extra-territorial competition for these companies, although a number of difficult costing and organizational issues would be raised by such an approach. The second scenario includes the possibility that particular jurisdictions may, in addition, decide to introduce competition on an intra-provincial/intra-territorial or intra-company basis. It postulates the introduction of such competition on an inter-regional basis where the definition of regions would be based on the U.S. LATA concept. Long distance traffic between major population centres would be subject to competition in this scenario, while all intra-regional and local services would continue to be supplied on a monopoly basis by the telephone companies.

Two possibilities exist for this and the previous scenario to permit competitors to access telephone company customers. The first would require a competitor to establish a point of presence (i.e., a long distance network access point) in each local exchange where it intended to compete. Customers would, for the most part, use the telephone company's local network to access the long distance competitor's network. Alternatively, an approach similar to that adopted for interLATA competition in the U.S. might be adopted. This would involve the establishment by a competitor of one or more points of presence within a province, territory or region with the telephone company being required to deliver traffic to the competitor in local exchanges throughout all areas where the competitor had purchased access. Thus, if access were purchased in all local exchanges, telephone company customers throughout its serving area could avail themselves of the competitor's services. The key difference in the two approaches relates to the possibility for quicker and more extensive coverage by a competitor. With the first approach, a competitor's long distance services initially would likely only be available in the local calling areas of major population centres. With the second approach, a competitor could choose to provide service to customers on a widespread basis at the outset.

The third scenario assumes that all the various market categories of public long-distance telephone service would be subject to competition. It further assumes that competitors would establish individual points of presence in selected local exchange areas throughout the country. Carrier access would be provided on a

local dial-up basis as described in the first access arrangement considered above. The most likely approach for an individual competitor would be to provide local originating service on a gradual basis, starting with the largest population centres and moving gradually to smaller centres. Facilities-based carriers could extend terminating coverage beyond the range of their own facilities by resale of the long distance services of the telephone companies or other competitors. This scenario was used by the Task Force to model the financial effects of long distance competition in Canada.

Other scenarios considered the situation that could occur if major facilities-based carriers focused on high-density route competition, and if Canada were to take a permissive attitude towards international competition. High-density route competition would lead to pressures for rate deaveraging. If a permissive approach to international competition were adopted, Canadian carriers might find themselves vulnerable to the use of U.S. facilities for a large portion of Canadian long distance traffic.

6.0 Financial Analysis of Competition in Public Long-Distance Telephone Service

An analysis of the financial impacts of long distance competition in Canada was conducted to determine the monthly local rate changes resulting from competitive entry and the contribution payments that a competitor could afford to pay.

The Financial Simulation Model

The analysis was conducted using a financial simulation model developed for the Task Force. The model focused on the third of the geographically-based competition scenarios described earlier. That is, competition was assumed to be permitted in all aspects of public long-distance telephone service starting in 1989. Competitors were also assumed to establish points of presence in particular local exchange areas beginning with the major population centres and moving gradually to smaller centres. The model simulated the effects of competition on 17 major telephone companies - the Telecom Canada members and eight independent telephone companies - across the country. Both facilities-based and resale competition were included. The model was used to determine the effects of varying a number of parameters. Key among these were the geographical areas where competition would be permitted (in and between the serving areas of Bell Canada and B.C. Tel only, in and between the serving areas of Telecom Canada members and on an all-Canada basis), the price discounts of competitors (10 or 25 per cent) and the base market lost by telephone companies (10 or 20 per cent of long distance traffic). A primary factor in the modelling process was to determine what contribution payments competitors could afford while remaining financially viable. It was generally found that a contribution discount would be required with consequent negative impact on telephone company revenues.

Financial Impact of Competition

Exhibits E-5 and E-6 illustrate the estimated effects of facilities-based competition on 1995 monthly local residential and business rates, respectively, where such competition occurs throughout Canada. In the model, competition results in financial impacts on telephone companies which are assumed to be offset by local rate changes. In these exhibits, local rate changes are assumed to apply on an equal-percentage basis to residential and business rates.

Among Telecom Canada members, AGT is estimated to experience the most severe local rate increases, while Manitoba Tel would experience the least. For example, under the 20 per cent competitor market share with a 25 per cent price discount assumed in this scenario, AGT residential rates would increase by $3.18 per month (1995 dollars) and business rates by $8.82 per month (close to 40 per cent), while Manitoba Tel rates would increase by only $0.63 and $1.85 per month, respectively (10 per cent). Among the independent telephone companies, the model results suggest that Northwestel would be the worst off because of its severe loss of contribution revenues. In fact, on a percentage but not on a dollar basis, Northwestel is predicted to experience the largest local rate increases of all telephone companies. The exhibits also show that municipally-based independent telephone companies would experience local rate decreases as a result of competition. This results from the fact that contribution payments made directly to these telephone companies would exceed the revenue received from other telephone companies under current revenue settlement procedures.

In the model, contribution payments were calculated so as to ensure that competitors would be financially viable over the first ten years of their operations. For the all-Canada 25 per cent price discount with a 20 per cent competitor market share scenario, from years 7 to 15 the competitor would earn an increasingly high return on equity (estimated at 33 per cent in the 15th year). This suggests that, in those years, the competitor could afford higher contribution payments. Furthermore, the competitor would be able to compete with the telephone companies at smaller price discounts. Both of these developments would have the effect of reducing the local rate increases attributable to the introduction of long distance competition after year 10.

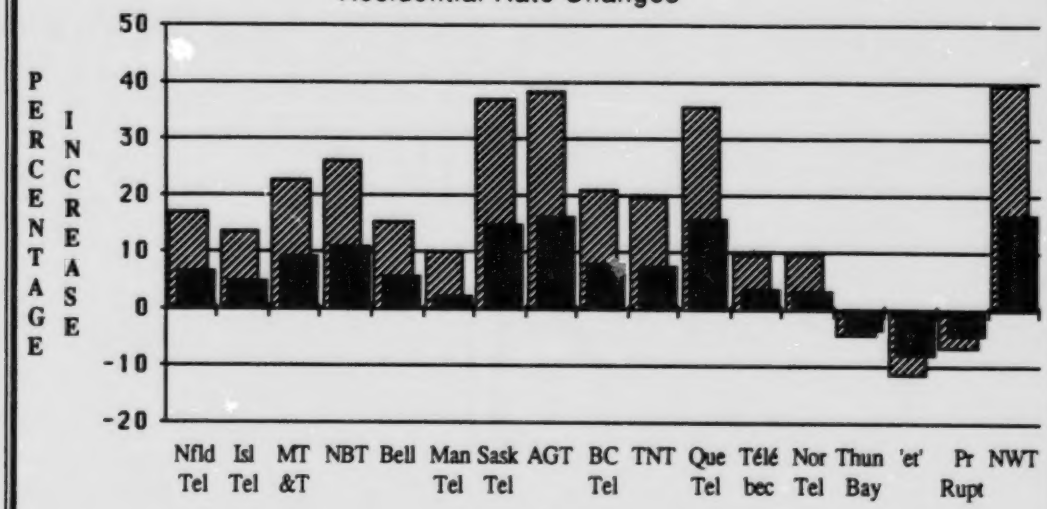
The model results were used to calculate the potential changes in monthly telephone bills for those customers who switch to the competitor's service. This bill analysis was conducted for the facilities-based, all-Canada competition scenario with 25 per cent price discount and 20 per cent competitor market share. As inferred above, all customers would receive monthly bill increases (except for the customers of certain independent telephone companies) as a result of higher local rates. Only a limited number of customers would be able to offset these monthly local bill increases by switching to the competitor's lower priced long distance services. For example, in this scenario it is estimated that between 8 and 13 per cent of Bell Canada's urban residential customers and between 5 and 9.6 per cent of its large business customers would experience lower overall monthly bills.

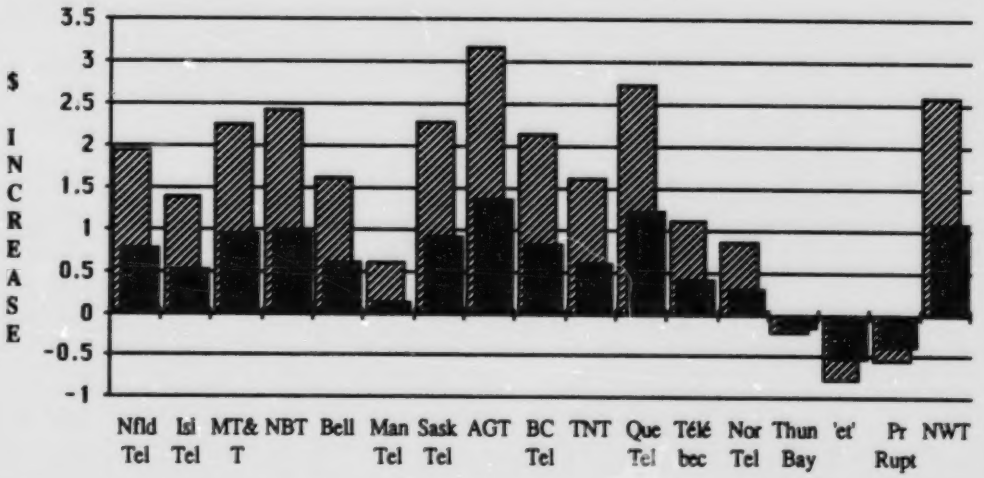
It should be noted that this bill analysis applies only to the scenario outlined above. Other scenarios would produce different results. For instance, produc-

Exhibit E-5

Estimated Effects of
Facilities-Based Long Distance Competition
on Local Rates, 1995 *

Residential Rate Changes





* Rate changes are for 1995 and are expressed in 1995 dollars. Assumes All-Canada competition and equal percentage changes to business and residential rates.

Source: Peat Marwick, study commissioned by the Task Force.

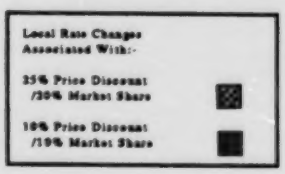
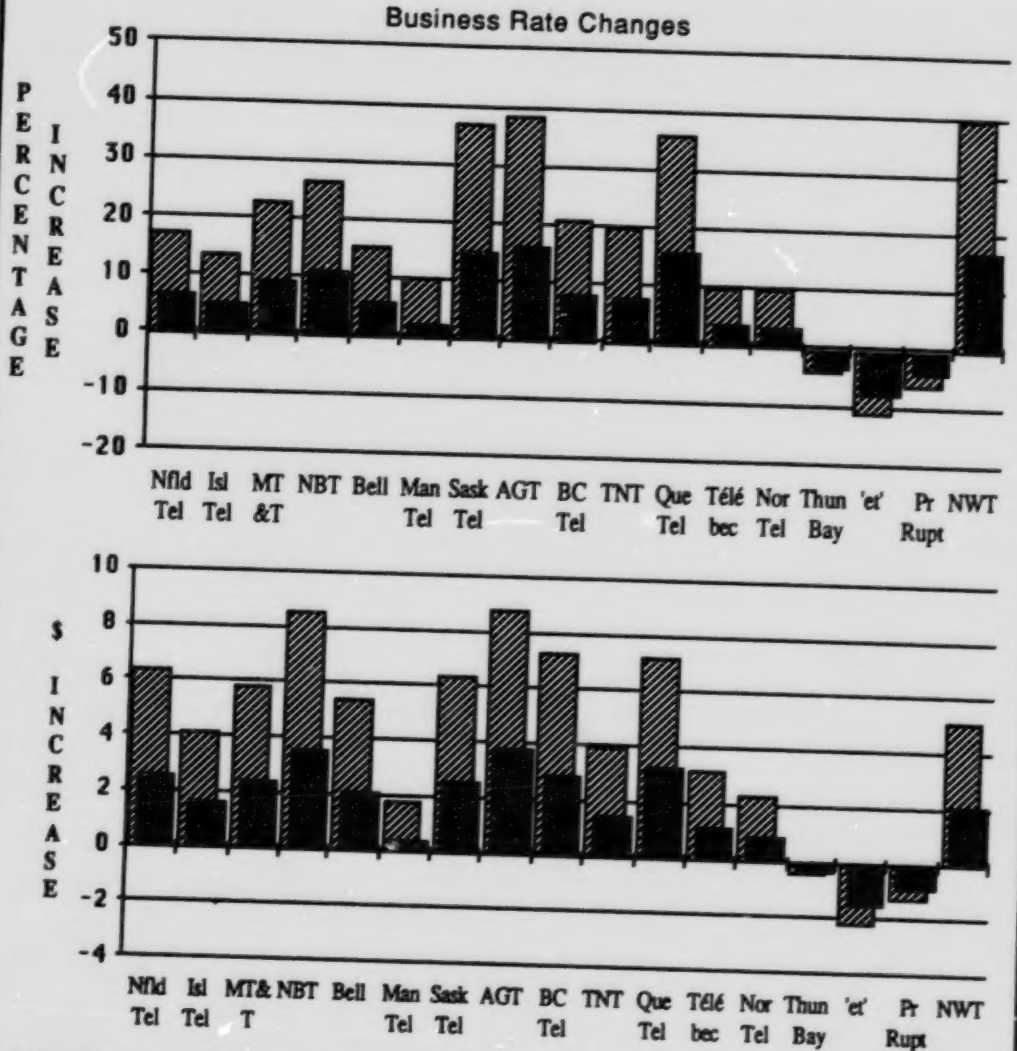


Exhibit E-6

Estimated Effects of Facilities-Based Long Distance Competition on Local Rates, 1995 *



* Rate changes are for 1995 and are expressed in 1995 dollars. Assumes All-Canada competition and equal percentage changes to business and residential rates.

Source: Peat Marwick, study commissioned by the Task Force.

tivity changes associated with the introduction of long distance competition would have the effect of either increasing or decreasing its impact on local rates with consequent changes to the results of the analysis of telephone bills.

The model produced interesting results relative to the various ways in which competition could occur. For instance, the local rate effects of competition in Bell Canada and B.C. Tel serving areas only would not be confined to these two companies. The loss of contribution revenues that would occur would have negative financial effects on other Telecom Canada members since they would be transmitted through the Telecom Canada Revenue Settlement Plan. Additionally, resale competition would lead to higher local rate increases than facilities-based competition because of the assumed higher cost structure of resale competitors. Combined facilities-based and resale competition would produce an intermediate local rate impact. Rate rebalancing, involving a partial adjustment of long distance and local rates in 1989 prior to introducing competition, was predicted by the model to have practically no effect on the financial viability of competitors, provided that they were permitted to pay lower contribution payments reflecting the lower contribution embodied in partially rebalanced telephone company rates. Local rate impacts in this environment would be practically the same as previously described.

Finally, the results of the modelling exercise indicate that, over the start-up period, a significant contribution payment discount would need to be given to competitors to ensure their financial viability. At a 20 per cent competitor market share, the incremental costs of the competitor and the telephone companies were estimated to be approximately the same, and the competitor would then be in a position to make a larger contribution payment than initially, even while maintaining the same price discount. A contribution discount would, however, continue to be required so long as a price discount was maintained by the competitor.

FEDERAL–PROVINCIAL–TERRITORIAL TASK FORCE

ON TELECOMMUNICATIONS

Competition in Public Long–Distance Telephone Service in Canada

Report

1.0 INTRODUCTION

This report presents the results of an examination of the factors that would be related to the introduction of competition in public long-distance telephone service in Canada. At a meeting in Edmonton on April 2-3, 1987, Ministers responsible for Communications agreed to review the desirability of competition in public long-distance telephone service in Canada. Ministers also agreed to ask a Task Force of federal, provincial and territorial telecommunications regulators and, in some cases, government representatives, to begin an investigation of the empirical evidence necessary for the development of sound public policy prior to any regulatory determination on this issue. Accordingly, this report provides information and analyses for use by Ministers in formulating future policy on competition in public long-distance telephone service.

1.1 Terms of Reference

The required work of the Task Force is contained in a document from Ministers which provides a context for the study, outlines the Terms of Reference and specifies certain procedural items.[1] The document states:

> In 1986, at the request of federal and provincial Ministers of Communications, a team of CRTC and provincial representatives conducted a major investigation of telecommunications pricing and the universality of affordable telephone service. Their findings were presented to Ministers in September, 1986 and released for public comment later that year. The Task Force report constituted the first comprehensive study of the pricing issue carried out in Canada and represented an important example of the benefits resulting from cooperation between federal and provincial governments and regulators.
>
> At their meeting in Edmonton on April 2-3, 1987, Ministers of Communications considered proposals for a national policy on competition and interconnection, which would be sensitive to regional differences and which would allow the provision of a broad range of telecommunications equipment and services on a competitive basis in all jurisdictions across Canada. As part of this policy framework, Ministers agreed to review the desirability of competition in public long distance service. In view of the complexities which surround the issues of telecommunications pricing and competition, and in order to collect the empirical evidence necessary for the development of sound public policy, they also agreed to ask federal, provincial and territorial representatives to begin an investigation prior to any regulatory determination on this issue, and to report their findings back to Ministers...

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[1] On 10 June 1987, the federal Minister of Communications wrote to the Chairman of the CRTC requesting that he organize the first meeting of the Task Force and enclosing the Terms of Reference.

The proposed study will proceed according to the following terms of reference.

Terms of Reference

1. Identify and quantify the source of long distance telephone revenues (MTS/WATS) in Canada e.g., inter-provincial, intra-provincial, adjacent member, Canada/U.S., Canada/overseas;

2. Review the technical, operational and economic factors, such as economies of scale and/or scope, price and demand elasticities, which may justify the provision of MTS/WATS service on a monopoly or competitive basis;

3. Review existing literature to describe the nature and extent of MTS/WATS competition in the U.S.A., Japan and the U.K., and its impacts on rates, quality and availability of residential and business telecommunications services in these countries;

4. Describe competition models for MTS/WATS which could be considered in Canada, ranging from regulated market sharing to full market place competition and including entry and exit criteria;

5. In light of the objective of maintaining universal availability of telephone service at affordable rates:

   (a) identify and analyze on a national and regional basis for each competition model outlined above, the range of potential impacts on:
   - basic local business and residential service rates,
   - short-haul and long-haul MTS/WATS rates, and
   - the rates for business-related telecommunications services.

   (b) analyze the relationship between competition in the MTS/WATS market and the pricing of telephone services, including effects in respect to value of service rating principles, system-wide averaging of long distance rates, and the provision of service in rural and remote areas.

6. Analyze the potential impact of competition in the MTS/WATS market in terms of economic and industrial costs and benefits for Canada and in terms of responsiveness to user needs.

7. Identify the alternative approaches to regulation that could apply to the activities of established carriers and new competitors, including the obligation to provide service, market sharing, minimum service offerings, the provision of facilities to competing carriers and resellers and other measures to ensure fair and equitable competition in the MTS/WATS market;

8. Estimate the cost of modifying the existing telephone network to provide competitors with access to the local exchange on a fair and equitable basis, including the cost of "equal access" for all competitors;

9. Examine alternative methods of calculating charges for the use of local network facilities and the use of MTS/WATS facilities by competing carriers and by resellers;

10. Determine the extent to which individual companies (including independent telephone companies) and their subscribers would be affected, directly or indirectly, by the introduction of competition in MTS/WATS in other jurisdictions;

11. Identify classes of users that would benefit from the introduction of MTS/WATS competition;

12. Identify classes of users that would be adversely affected by the introduction of MTS/WATS competition and identify pricing mechanisms to minimize its impact on these users.

The study will attempt to identify and assess these issues in terms of their incidence and effects within specific companies, as well as their impacts between companies and jurisdictions. In the latter case, special attention will be given to the relationship between the settlements process for sharing toll revenues in the telephone business and the introduction of competition into the MTS/WATS market. This relationship will be examined both with respect to the settlement arrangements between member companies of Telecom Canada and in relation to those which exist between Telecom Canada members and the independent telephone companies.

In conducting their examination, the task force should make use of existing studies and assemble a wide range of data pertaining to the above issues.

1.2 Organization and Functioning of the Task Force

Pursuant to the Terms of Reference, the Task Force examined the introduction of competition in public long-distance telephone service as one of the options for the future of telecommunications in Canada. The Task Force was composed of representatives from the federal Canadian Radio-television and Telecommunications Commission (CRTC), and all provinces and territories. The Task Force was chaired by CRTC Vice-Chairman, Louis R.(Bud) Sherman. Other participants of the Task Force are listed in Appendix A.

At the outset, members of the Task Force established four Working Groups and a Study Group composed of members of the Task Force and supported by their respective staff members, to gather and analyze information pertaining to the following aspects of the Terms of Reference: competitive and regulatory scenarios

and pricing mechanisms to mitigate user impact; financial and rates analysis; industry structure and economic impact; foreign experience; and carrier access costs. Some of the specific information used by the Task Force was gathered through a series of information requests to Canadian telephone companies. In some instances, consultants were retained to assist in gathering and analyzing information. Consulting reports resulting from this process are included as part of the documentation being transmitted to Ministers by the Task Force. It should be noted that the views expressed therein are those of the consultants and they are not necessarily shared by members of the Task Force.

In all activities of the Task Force, members undertook to confine their activities to the collection and review of information and the provision of objective analysis relating to competition in public long-distance telephone service. In this respect, members considered their role to be one of information gathering and analysis which could contribute to the policy-making role of Ministers. The Task Force did not seek nor did it accept the opinions of members of the general public who might have had an interest in the issue of competition in long distance telephone service. The Task Force instead collected and analyzed information as outlined in the preceding paragraph. As a consequence, information has on occasion been secured from only one source and has not been verified or challenged by other interested parties. The approach followed was considered not to fetter the quasi-judicial regulatory discretion of regulators participating on the Task Force. The work of the Task Force was oriented towards providing governments with a common base of information upon which to consider and determine policies concerning competition in public long-distance telephone service.

2.0 CANADIAN TELECOMMUNICATIONS MARKET

This chapter presents an overview of the key characteristics of the Canadian telecommunications market. The intent is to provide background material against which to assess subsequent discussion of competition in public long-distance telephone service in Canada. The following sections present an overview of the Canadian telecommunications industry structure, the services provided, long distance telephone revenues, the policy and regulatory environment and prior experience with competition.

2.1 The Telecommunications Industry Structure in Canada

Telecommunications services in Canada are provided by a mixture of private, governmental and joint private-governmental organizations with operational mandates varying from serving a single local area to serving the nation as a whole. The major components of the telecommunications industry are:

A. Telecom Canada

Telecom Canada is an unincorporated association of the largest telephone company in each province and Telesat Canada, the domestic satellite carrier. The ten members of Telecom Canada, together with their ownership type and serving area are presented in Exhibit 2-1. The serving area of each telephone company member is generally contained within a province (Bell Canada is an exception in that it operates within two provinces and a territory). Telecom Canada co-ordinates the operations of the national telecommunications network of its members, markets products and services nation-wide, and distributes jointly-earned revenues. The members of Telecom Canada provide a range of facilities for the transmission and switching of local and long distance telecommunications traffic, including two coast-to-coast microwave relay routes. Telecommunications traffic is also carried on coaxial and fibre optics cable systems (a national fibre optics system should be fully operational by 1990), and via Telesat Canada's satellites and earth stations.

Telesat Canada became a member of Telecom Canada in 1977 so as to participate in the planning and investment decisions affecting the development of Canadian telecommunications networks and to promote the full integration of satellite facilities into the terrestrial systems operated by the other members. The terms of the initial agreement making Telesat a member of Telecom Canada assured Telesat of continuing financial viability by virtue of transfer payments provided by other Telecom Canada members. Telesat's services were marketed by Telecom Canada, making it a carriers' carrier. Recently, however, Telesat has sought and received agreement to market its services directly to subscribers across the country. Coincident with this change in marketing, transfer payments were limited to a maximum of $20 million in 1985, 1986 and 1987 and terminated thereafter. Telesat is now in

EXHIBIT 2-1

Telecom Canada Member Companies*

COMPANY	TYPE OF OWNERSHIP	SERVING AREA
Newfoundland Telephone Co., Ltd. (Nfld Tel)	Investor-owned	Portion of Newfoundland
Island Telephone Co., Ltd. (Island Tel)	Investor-owned	Prince Edward Island
Maritime Telegraph and Telephone Co., Ltd. (MT&T)	Investor-owned	Nova Scotia
The New Brunswick Telephone Co., Ltd. (NBTel)	Investor-owned	New Brunswick
Bell Canada	Investor-owned	Portions of Québec and Ontario, and eastern portion of Northwest Territories
Manitoba Telephone System (Manitoba Tel)	Provincial Crown Corporation	Manitoba
Saskatchewan Telecommunications (SaskTel)	Provincial Crown Corporation	Saskatchewan
Alberta Government Telephones (AGT)	Provincial Crown Corporation	Alberta (except the City of Edmonton)
British Columbia Telephone Co. (B.C. Tel)	Investor-owned	Major portion of British Columbia
Telesat Canada	Govt. of Canada/ Major Telecommunications Companies	Canada

* In addition, Québec-Téléphone is an associate member.

the dichotomous position of being a present and/or potential competitor among a group of otherwise essentially non-competing telecommunications carriers.

B. The Independent Telephone Companies

In addition to the members of Telecom Canada, there are nearly a hundred other telephone companies operating across Canada. The largest of the non-Telecom Canada companies operating in the respective provinces and territories are included in Exhibit 2-2. The remaining telephone companies operate primarily in Québec and Ontario under provincial, municipal, co-operative or private ownership.

C. Other Telecommunications Carriers

Teleglobe Canada

Teleglobe Canada, the recently privatized carrier for overseas traffic, provides facilities or otherwise arranges for telecommunications services between Canada and overseas locations. As part of the sale of Teleglobe to Memotec Data Inc. in April 1987, the policy of the federal government was to extend Teleglobe's effective monopoly for the carriage of overseas traffic for a minimum five-year period.[2]

Teleglobe carries overseas telecommunications traffic through its international gateway switches at Montreal, Toronto and Vancouver. It uses undersea cables jointly owned with international carriers of other countries and satellite facilities leased from Intelsat. Traffic to and from Canadian points is generally carried by Canadian domestic carriers to gateway switches and thereafter on Teleglobe facilities. Teleglobe, however, is not generally involved in providing services between Canada and the United States or Mexico.

CNCP Telecommunications

CNCP Telecommunications (CNCP), a national facilities-based carrier, provides a wide range of competitive voice, data and messaging services (with the exception of public local or long-distance telephone services) across the country. CNCP was formed on January 1, 1980 as a partnership which combined certain of the telecommunications operations of government-owned Canadian National Railway Company and investor-owned Canadian Pacific Limited. CNCP has been granted the right to interconnect to the local distribution facilities of Bell Canada and B.C. Tel for the provision of its

[2] Department of Communications, "Statement of Telecommunications Policy Respecting Teleglobe Canada," November 1986, p.2.

EXHIBIT 2-2

Largest Independent Telephone Companies in Respective Provinces and Territories

COMPANY	TYPE OF OWNERSHIP	SERVING AREA
Terra Nova Telecommunications (Terra Nova)	CN-owned*	Portion of Newfoundland
Québec-Téléphone** (Québec-Tél)	Investor-owned	Portion of Québec
Télébec	Investor-owned	Portion of Québec
Northern Telephone (Northern Tel)	Investor-owned	Portion of Ontario
Thunder Bay Telecommunications (Thunder Bay)	Municipally-owned	City of Thunder Bay, Ontario
'edmonton telephones' ('et')	Municipally-owned	City of Edmonton, Alberta
Prince Rupert City Telephones (Prince Rupert)	Municipally-owned	City of Prince Rupert, British Columbia
Northwestel (NWT)	CN-owned*	Western portion of Northwest Territories, Yukon and northern British Columbia

* In August 1988, the sale of Terra Nova Telecommunications and Northwestel to Newfoundland Telephone Company Limited and BCE Inc., respectively, was announced. CN News, 22 August 1988.

** Québec-Téléphone is an associate member of Telecom Canada.

competitive voice and data services.[3] CNCP operates its own national microwave relay system and switching centres and has fibre optics systems installed on major high-density routes as part of an eventual nation-wide fibre optics network.

B.C. Rail

B.C. Rail operates a microwave system along its rail right of way, extending from its terminus in North Vancouver to Fort Nelson, British Columbia. In 1985, B.C. Rail was permitted by the CRTC to interconnect with B.C. Tel to provide competitive services similar to those provided by CNCP.[4] B.C. Rail's subsequent application to interconnect with Northwestel was, however, denied by the CRTC.[5]

Radio Common Carriers and Cellular Radio Telephone Service Providers

Radio common carriers form a small but growing sector of the telecommunications industry in Canada. Radio common carriers were first licensed by the federal Department of Communications (DOC) in 1963 to provide radio paging, mobile radio, message forwarding, alarm monitoring and data transmission services to the public.

In 1985, DOC issued licences for the provision of cellular radio telephone service, an emerging radio-based portable telephone service interconnected to the public switched telephone network. DOC chose to allow the provision of service on a duopoly basis by telephone companies and a private operator. Cantel Inc., the private operator, was selected by DOC to provide cellular service. In June 1988, Cantel was reported to be providing service in 24 centres in Nova Scotia, Québec, Ontario, Manitoba, Alberta and British Columbia.[6] A number of telephone companies currently provide cellular service and other companies are in the process of developing or initiating service. On a national basis, service provided by the telephone companies is co-ordinated through CellNet Canada, an association of telephone company cellular affiliates across the country.

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[3] CNCP Telecommunications: Interconnection with Bell Canada, Telecom Decision CRTC 79-11, 17 May 1979; and CNCP Telecommunications: Interconnection with the British Columbia Telephone Company, Telecom Decision CRTC 81-24, 24 November 1981.

[4] Interexchange Competition and Related Issues, Telecom Decision CRTC 85-19, 29 August 1985.

[5] B.C. Rail Ltd. - Interconnection with Northwestel Inc., Telecom Decision CRTC 87-9, 31 July 1987.

[6] "Cantel Inc," Network Letter, 6 June 1988, p.4.

Cellular providers in Bell Canada and B.C. Tel serving areas carry long distance traffic utilizing a mix of their own or other carrier-provided network facilities. In provincially-regulated telephone company serving areas, where cellular service is provided, long distance traffic must be carried over the telephone companies' long distance networks.

Other Companies

In addition to the companies indicated above, there are a growing number of enhanced service providers using leased facilities to offer a range of specialized services, including electronic and voice mail, graphics messaging, facsimile, videoconferencing, electronic data interchange, teleshopping and database services. Such companies provide services that add value to or "enhance" underlying telecommunications services leased from common carriers.[7] There are also a number of operators of private microwave systems (utilities, railways, cable companies) licensed by DOC to handle their own traffic requirements. While these companies do not currently offer services to the public, they could do so if, in a competitive environment, excess capacity were allowed to be sold to provide public long-distance telephone service.

2.2 Telecommunications Services

The companies described above offer a wide range of switched and private line voice, data and image communications services to Canadians. Public-switched telephone service is the major area of service provided by the telephone companies. This area of service is divided into two categories: local (exchange) and long distance (interexchange) services. The principal local services include individual-line and multi-party business and residential service, PBX trunk and Centrex service, and public telephone service (pay telephone).

The primary long distance service area is switched, public long-distance telephone service which is broken into two principal categories: Message Toll Service (MTS) and Wide Area Telephone Service (WATS). MTS is the basic long distance service providing real time communications between subscribers located in different local exchanges throughout the country and to points in the United States, Mexico and overseas. WATS is a bulk-rated long distance service used by business customers. Outward-calling WATS provides for out-going customer dialled long distance calling from a customer's premises to points in Canada. Inward-calling WATS ("800-Service") provides for receiving station-to-station customer dialled calls from specified 800-Service zones in Canada, the United States and to a limited extent overseas, without charge to the originating caller.

The telephone companies, Telesat Canada, CNCP and B.C. Rail competitively provide a variety of dedicated private-line voice services on either an interconnected (foreign exchange, tie trunk, off-premises extensions) or non-

[7] Various regulatory bodies have other definitions of enhanced services. For example, see Enhanced Services, Telecom Decision CRTC 84-18, 12 July 1984.

interconnected basis. In February 1987, the CRTC also permitted the facilities and services of the federally regulated carriers to be resold and shared to provide interconnected and non-interconnected private line voice, data and image services.[8] This ruling is expected to increase the number of business service telecommunications suppliers.

2.3 Long Distance Telecommunications Revenues

An overview of the originated long distance revenues of the major Canadian telephone companies is presented in Exhibit 2-3. The industry generated originated revenues in excess of $5.2 billion in 1986, with Telecom Canada members accounting for 96 per cent of the total. Intra-company revenues make up 57.9 per cent of total long distance revenues. Bell Canada's intra-company revenues are the largest of all, at 66.3 per cent of its originated long distance revenues - presumably because its serving area extends across portions of Ontario, Québec and Northwest Territories, and includes the high-density Québec City-Windsor corridor. Other companies have high intra-company originated revenues, also presumably because of a number of large population centres within their serving areas. Inter-company, Canada-U.S. and Canada-overseas originated revenues are comparatively smaller at 22.5, 9.7 and 8.8 per cent, respectively, of total long distance revenues.[9] With regard to the Canada-U.S. and Canada-overseas categories, Bell Canada has by far the largest portion of originated revenues measured either in dollar terms or as a percentage of company long distance revenues. In a similar way, Bell Canada's inter-company revenues are by far the largest.

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[8] Resale to Provide Primary Exchange Service, Telecom Decision CRTC 87-1, 12 February 1987; and Tariff Revisions Related to Resale and Sharing, Telecom Decision CRTC 87-2, 12 February 1987.

[9] The long distance revenue categories include: (1) Intra-company: revenues received from services provided by a Canadian telephone company exclusively within its own serving area. (2) Inter-company: revenues received from services provided by Canadian telephone companies whose serving areas are contiguous (Telecom Canada's adjacent-company category), as well as those received from services provided between two or more Canadian telephone companies whose serving areas are not adjacent (Telecom Canada's transCanada category). Additionally, revenues derived from certain specifically designated traffic (e.g., Voicecom II, Multicom II, Dataroute, Datalink, Datapac, etc.) are included notwithstanding that such traffic may occur within the serving area of a single telephone company; (3) Canada-U.S.: revenues received from services provided between a Canadian telephone company and a U.S. telephone company, excluding those telephone companies in the non-contiguous U.S. states and territories such as Alaska and Hawaii, but including Puerto Rico, or between a Canadian telephone company and one operating in Mexico; and (4) Canada-overseas: revenues received from services provided by a Canadian telephone company using Teleglobe Canada's gateways located in Vancouver, Toronto and Montreal for traffic either originating or terminating in Canada. Revenue from traffic between Canada and either Alaska or Hawaii is also classified as Canada-overseas.

EXHIBIT 2-3

Originated Revenues of Selected Canadian Telephone Companies from Public Long-Distance Telephone Service, 1986 (1) ($ Millions)

Telephone Company	Revenues				
	Intra-Company	Inter-Company(2)	Canada-U.S.	Canada-Overseas	L.D. Total
Nfld Tel	n/a	n/a	n/a	n/a	70
Island Tel	6	11	1	0	18
MT&T	76	73	9	6	165
NBTel	51	57	8	3	119
Bell Canada(3)	1,961	302	348	345	2,956
Manitoba Tel(4)	71	110	18	11	210
SaskTel	n/a	n/a	n/a	n/a	232
AGT(5)	257	187	36	25	505
B.C. Tel(3)	396	192	72	64	724
Terra Nova Tel	n/a	n/a	n/a	n/a	n/a
Québec-Tél	25	50	n/a	n/a	74
Télébec	10	40	2	0	52
Northern Tel(6,8)	n/a	n/a	n/a	n/a	20
Thunder Bay(6,8)	n/a	n/a	n/a	n/a	19
'edmonton tel'(6)	n/a	n/a	n/a	n/a	n/a
Prince Rupert(6)	n/a	n/a	n/a	n/a	4
Northwestel(7)	8	26	1	1	36
Total (9)	3,021	1,170	507	463	5,204
% of Total Long Distance Revenues	57.9%	22.5%	9.7%	8.8%	

Notes:

(1) Public Long-Distance Telephone Service (L.D.) = MTS, WATS & 800 Service; n/a denotes not available or confidential.

(2) Inter-company includes revenues received from services provided between two Canadian telephone companies whose serving areas are contiguous (Telecom Canada's adjacent-company category) and those from services provided between two or more companies whose serving areas are not adjacent (Telecom Canada's transCanada category).

(3) WATS and 800 Service revenues are aggregated with Intra-company.

(4) For the year ended 31 March 1987.

(5) 800 Service revenues include those originated from 'edmonton tel' territory and are aggregated with Intra-company revenues.

(6) Long distance services provided by other carriers (e.g., AGT provides long distance services to 'edmonton tel's' customers).

(7) WATS and 800 Service not offered.

(8) MTS only.

(9) Column totals include information filed in confidence. Column and row totals do not balance because not all companies provided discrete data.

SOURCE: Based on telephone company responses to information requests from Task Force members, 30 September 1987.

A somewhat different perspective on long distance revenues of telephone companies is provided by an examination of settled revenues (Exhibit 2-4). Settled revenues are net of payments to or from other telephone companies which are involved in completing long distance calls to or from a company's serving area. As such, they differ from originated revenues and represent the actual dependence of a company on particular sources of long distance revenues. For most companies, long distance revenues form a major revenue source, ranging from 47.5 per cent for Island Tel to 61.6 per cent for Northwestel. Only municipally-based companies or those that do not generally provide their own long distance facilities (Northern Tel, Thunder Bay, 'edmonton tel' and Prince Rupert) are less dependent on long distance revenues. On an industry-wide average basis, long distance revenues represent close to 50 per cent of total operating revenues for Canada's telephone companies. The exhibit indicates for individual companies the relevant extent of their dependence on intra-company versus other sources of revenues.

2.4 Policy and Regulatory Environment

The Canadian telecommunications regulatory environment has evolved into a structure in which telecommunications common carriers are regulated by one of: (a) the federal regulatory agency, the Canadian Radio-television and Telecommunications Commission (CRTC); (b) a provincial government regulatory body; (c) a municipal council; or (d) a provincial cabinet. The CRTC regulates B.C. Tel, Bell Canada, CNCP, Northwestel, Teleglobe Canada, Telesat Canada and Terra Nova Telecommunications. These carriers account for more than 70 per cent of telecommunications service revenues in Canada. The provinces regulate telecommunications common carriers under their jurisdiction. The CRTC has also concluded that Cantel is a company under the Railway Act and, hence, falls within its jurisdiction. Some provinces question CRTC jurisdiction in this matter. In Saskatchewan, the provincial cabinet exercises control over telecommunications companies under provincial jurisdiction. In the cases of Newfoundland, Nova Scotia, Prince Edward Island, New Brunswick, Manitoba and Alberta a Public Utilities Board or Commission regulates the principal telephone company operating within its provincial boundaries. In the case of Québec, Ontario and British Columbia, independent telephone companies are regulated at the provincial level. Prince Rupert City Telephones and 'edmonton telephones', however, are both regulated by their respective municipal councils. The British Columbia Utilities Commission regulates the part of Prince Rupert City Telephones outside the municipal boundaries of Prince Rupert.

Although individual governments may set policy in their respective jurisdictions, in recent years federal, provincial and territorial Ministers of Communications have met to consider national policies and develop co-operative mechanisms. For example, Ministers met in Edmonton in April 1987 to endorse a set of six general principles designed to assist in the formulation of government policy and regulation in light of the changing telecommunications environment. In addition, the Ministers considered two agreements: (1) an agreement for sharing of governmental responsibilities that would facilitate the co-ordination of government policies and regulation; and (2) an agreement on interconnection and competition policy that would allow for a consistent level of competition in

EXHIBIT 2-4

Settled Revenues of Selected Canadian Telephone Companies from Public Long-Distance Telephone Service, 1986 (1) ($ Millions)

Telephone Company	Revenues				Total Operating Revenues	Revenues as a Percentage of Total Operating Revenues			
	Intra-Company	Non-Intra-Company(2)	Other (3)	L.D. Total		Intra-Company	Non-Intra-Company	Other	L.D. Total
Nfld Tel	n/a	n/a	n/a	79	146	n/a	n/a	n/a	54.2%
Island Tel	6	11	0	17	36	15.7%	31.9%	0.0%	47.5%
MT&T	76	94	0	171	333	23.0%	28.3%	0.0%	51.3%
NBTel	51	79	1	131	258	19.8%	30.5%	0.4%	50.8%
Bell Canada (4)	1,792	1,086	0	2,878	5,946	30.1%	18.3%	0.0%	48.4%
Manitoba Tel (5)	71	117	3	191	377	18.8%	31.1%	0.7%	50.6%
SaskTel	n/a	n/a	n/a	270	450	n/a	n/a	n/a	60.1%
AGT (6)	291	264	8	563	1,066	27.3%	24.8%	0.8%	52.8%
B.C.Tel (7)	322	402	0	724	1,347	23.9%	29.8%	0.0%	53.8%
Terra Nova Tel	9	14	0	23	44	21.3%	30.7%	0.0%	52.0%
Québec-Tél	25	74	1	99	183	13.5%	40.3%	0.6%	54.3%
Télébec	10	50	3	62	114	9.0%	44.0%	2.2%	54.5%
Northern Tel	n/a	n/a	n/a	11	29	n/a	n/a	n/a	39.3%
Thunder Bay	n/a	n/a	n/a	9	23	n/a	n/a	n/a	37.8%
'edmonton tel' (8)	n/a	n/a	n/a	32	238	n/a	n/a	n/a	13.2%
Prince Rupert	n/a	n/a	n/a	1	6	n/a	n/a	n/a	16.7%
Northwestel	8	28	3	39	64	13.1%	43.1%	5.3%	61.6%
Total (9)	2,822	2,399	28	5,301	10,660	25.3%	22.5%	1.4%	49.7%

Notes: (1) Public Long-Distance Telephone Service (L.D.) = MTS/WATS & 800 Service; n/a denotes not available or confidential.

(2) Non-Intra-company includes settled revenues from services provided between two Canadian telephone companies (Telecom Canada's adjacent-company and transCanada categories) as well as Canada-U.S. and Canada-overseas.

(3) Other includes the company's share of settled revenues with independent companies, transCanada and Canada-U.S. traffic.

(4) Intra-company includes Bell Canada's share of settled revenues from Bell/independent company traffic.

(5) Manitoba Tel figures are for the year ended 31 March 1987.

(6) Before additional payments (payable by Telecom Canada companies, estimated at $30.5m) due retroactively to 'et' under the Arbitration Decision (28/2/87).

(7) Non-Intra-company includes all WATS and 800 Service settled revenues. Intra-company includes only MTS.

(8) Pursuant to Arbitration Decision (28/2/87).

(9) Column totals include information filed in confidence. Column and row totals do not balance because not all companies provided discrete data.

SOURCE: Based on telephone company responses to information requests from Task Force members, 30 September 1987.

communications services and equipment throughout Canada. Final agreements have not yet been reached.

2.5 Current Extent of Competition in Canadian Telecommunications

There have been a number of major developments that have resulted in increased competition in Canadian telecommunications, including:

- Regulators have permitted the attachment of customer-provided terminal equipment, including private branch exchanges, to the facilities of all companies except SaskTel, Manitoba Telephone System and Newfoundland Tel. These latter companies, however, permit the attachment of residence extension sets and network non-addressing devices. In Nova Scotia, all terminal equipment activities except single-line rental sets have been removed from the rate base and from the revenue requirement of MT&T.

- Enhanced services may be provided on a competitive basis in most jurisdictions, although most jurisdictions other than the CRTC have no formal policies on resale to provide enhanced services.

- The interconnection of Cantel's cellular service has been permitted by the CRTC and regulatory authorities in Nova Scotia, Québec, Manitoba and Alberta.

- CNCP, Telesat and B.C. Rail have been permitted by the CRTC to interconnect to Bell Canada and B.C. Tel (B.C. Tel only for B.C. Rail) to provide private line voice and data services. CNCP has also been permitted by Ontario to interconnect on a limited basis to Thunder Bay Telecommunications. Interconnection has also been allowed by 'edmonton telephones' for a limited number of CNCP's customers.

- Resale and sharing to provide non-MTS/WATS services, including resale and sharing to provide primary exchange voice service, except pay phone service, has been permitted by the CRTC in the serving areas of Bell Canada, B.C. Tel, Northwestel and Terra Nova Tel. In addition, resale of MTS to provide MTS is also permitted by the CRTC, and by certain provincial authorities for hotels and specialty network-connected mobile radio services. The facilities and services of CNCP and Telesat Canada may also be shared and resold, as appropriate, throughout the country.

- Interconnection to provide MTS by radio common carriers, including cellular providers, has been permitted in CRTC-regulated telephone company territories. However, such calls must originate or terminate on a mobile terminal or a cellular telephone.

- In response to an increasing degree of competition, regulators have adopted a number of different approaches to the tariff-approval process, ranging from forbearance from tariff approval for cellular service (e.g., CRTC, Nova Scotia and Manitoba) and certain CNCP services (CRTC, subject to an appeal to the

Federal Court of Appeal),[10] category-wide costing for competitive services provided by telephone companies (Alberta) or no regulation of telephone-company enhanced services (e.g., P.E.I., Nova Scotia, Saskatchewan.).

Competition has not been permitted in the provision of MTS/WATS, except as noted above with respect to mobile radio and cellular mobile telephone service. One requirement that has arisen as a consequence in some jurisdictions is the need to define precisely the boundary line between services in which competition is permitted and those in which it is not. In practice this can be extremely difficult. Permitting competition in the provision of all long distance services other than MTS/WATS requires the adoption of precise definitions based on service and/or technological characteristics as to what constitute MTS/WATS services. Where new services are developing and technology is evolving rapidly, any such definitions are susceptible to becoming rapidly outdated and some encroachment of competition into markets where it is not permitted may inevitably result.

The issue of whether to allow MTS/WATS competition was extensively addressed by the CRTC in response to a CNCP application to interconnect its facilities with the public-switched telephone networks of Bell Canada and B.C. Tel in order to compete with these companies in providing public long-distance telephone service.[11] The CRTC concluded that while there are a number of potential benefits associated with the introduction of MTS/WATS competition, it would not be in the public interest to grant CNCP's application. No applications to consider this issue have been received by other regulators as of this date.

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[10] Federal Court of Appeal, Telecommunications Workers' Union v. Canadian Radio-television and Telecommunications Commission and CNCP Telecommunications (respecting CNCP Telecommunications - Application for Exemption from Certain Regulatory Requirements, Telecom Decision CRTC 87-12, 22 September 1987).

[11] Interexchange Competition and Related Issues, Telecom Decision CRTC 85-19, 29 August 1985.

3.0 FOREIGN EXPERIENCE WITH COMPETITION IN PUBLIC LONG-DISTANCE TELEPHONE SERVICE

Three countries, the United States, the United Kingdom and Japan, have introduced varying degrees of competition in the provision of public long-distance telephone service. This chapter provides an analysis of the nature, extent and impacts of competition in those three countries. Additionaliy, a discussion of European policies and activities regarding competition in telecommunications is included. While competition in public long-distance telephone service has not been introduced in Europe, European policies regarding competition may also be informative to Ministers.

The discussion of the foreign experience with competition is drawn from staff work and, in the case of the U.S., from a number of consulting studies commissioned by the Task Force. The primary consulting study in this respect, entitled "A Profile of the U.S. Experience with Competition in Public Long-Distance Telephone Service," is a review of the available literature and was conducted by Brownlee Thomas, Ville LaSalle, Québec. Other consulting studies commissioned by the Task Force considered various aspects of the U.S. experience with competition within the context of their specific assignments; where appropriate, material from these studies is included in this section.

3.1 Nature, Extent and Impacts of Competition in the United States

This section explores competition in the U.S. from its early beginnings to current competition in public long-distance telephone service and discusses its impacts on the rates, quality and availability of services. Additionally, it provides an overview of the competitive industry structure, the players and their relative performance in a competitive environment.

3.1.1 Key Events in the Emergence of Competition

A summary of key events in the emergence of competition in the U.S. is provided in Exhibit 3-1. The first significant decision to open up the telecommunications market was the private microwave "Above 890" ruling by the Federal Communications Commission (FCC), issued in July 1959.[12] (The FCC regulates interstate and international telecommunications in the United States.) The "Above 890" ruling heraided the beginning of competition in the private-line service industry, ending the earlier practice of restricting microwave licences to the established carriers and broadcasters. However, it was not until ten years later that an alternative carrier was permitted to enter the market to provide service on a common carrier basis. In 1969, the FCC authorized Microwave Communications, Inc.

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[12] Federal Communications Commission (FCC), Docket 11866, "In the Matter of Allocation of Frequencies in the Bands Above 890 Mc.," Report and Order, 27 FCC 359 (1959); reconsideration denied, 29 FCC 825 (1960).

EXHIBIT 3-1

Key Events in Telecommunications Competition in the United States

1956	AT&T restricted from competing in computer markets.
1957	FCC permits the attachment of passive devices (the Hush-A-Phone decision).
1959	FCC approves private microwave networks.
1968	FCC ends prohibition of non-Bell telephone equipment.
1969	FCC approves competitive private-line long distance service.
1971	FCC sets rules for specialized long distance companies.
1974	Justice Department brings antitrust suit against AT&T.
1977	Court approves MCI's entry into switched public long-distance service.
1980	FCC deregulates telephone equipment and sets boundaries between telecommunications and information services.
1981	FCC finds unlimited sharing and resale to be in the public interest.
1982	AT&T and Justice Department agree in Consent Decree to divestiture of the Bell System. In his Modification of Final Judgment (MFJ), Judge Greene states detailed terms of divestiture, especially restrictions on competition by Bell operating companies.
1984	The AT&T corporate breakup goes into effect on January 1st.
1985	FCC pricing rules take effect for direct recovery of telephone plant costs from customers.
1985	FCC streamlines international competition through its International Competitive Carrier Order.
1986	FCC sets rules for "open network architecture" and future competition in information services.
1987	In his first MFJ review, Judge Greene rejects most recommendations to ease constraints on competition.

SOURCES: Geoffrey W. Gevalt, "After the Breakup: A New World of Telecommunications," HBS Bulletin, December 1987; Brownlee Thomas, study commissioned by the Task Force; D.A. Ford and Associates, "U.S. Experience with Competition in Long-Distance Telephone Service," a study carried out for the Ministry of Transportation and Communications, Ontario, March 1984; Dow, Lohnes and Albertson, Telecom Strategy 88: Competition and National Policy; Executive Seminar held 25-26 January 1988, Background Papers, Washington, D.C.

(MCI) to offer competitive private-line service by microwave, in direct competition with American Telephone and Telegraph Company (AT&T).[13]

In 1971, the FCC adopted a broader policy that dealt with Specialized Common Carriers as a group. With this decision, the FCC permitted open entry into the private-line services market.[14] Over the period from the late 1950s, the FCC also removed regulatory barriers to the interconnection of terminal equipment. The FCC's intent with its decisions in these two areas was to create fully competitive terminal equipment and private line markets.

From private line service, it was only a short step for MCI to provide "shared" private line service (i.e., switched long distance service), which it introduced under the name of "Execunet" in January 1975. The FCC, however, refused MCI's Execunet tariff and appears thereby to have drawn the line at public long-distance telephone service. MCI sought recourse through the courts and succeeded in July 1977 in having the FCC order overturned by the appellate court.[15]

The Court ruled that since the FCC had never made an affirmative determination that the public interest required a monopoly supplier to provide interstate long distance service, a competitor's service could not be excluded. AT&T responded by refusing interconnection and the FCC concurred, applying for leave to appeal its case before the U.S. Supreme Court. In January 1978, the Supreme Court declined to grant the FCC's application and in April that year the appellate court ordered AT&T to provide interconnection to MCI.[16]

Following the Court's intervention in Execunet, the FCC opened Docket 78-72, an inquiry instituted to determine whether the public interest required that interstate MTS/WATS should be provided on a sole-source basis, and to examine

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[13] FCC, Docket 16509, "In Re Applications of Microwave Communications, Inc. for Construction Permits to Establish New Facilities in the Domestic Public Point-to-Point Microwave Radio Service at Chicago, Ill., St. Louis, Mo., and Intermediate Points," Decision (the MCI decision), 18 FCC 2d 953 (1969); reconsideration denied, 21 FCC 2d 190 (1970).

[14] FCC, Docket 18920, "In the Matter of Establishment of Policies and Procedures for Consideration of Applications to Provide Specialized Common Carrier Services in the Domestic Point-to-Point Microwave Radio Service and Proposed Amendments to Parts 21, 43 and 61 of the Commission's Rules," First Report and Order (Common Carriers - Competition for Specialized Services), 22 RR 2d 1501 (1971).

[15] MCI Telecom Corp. v. FCC (Execunet I), 561 F.2d 365 (D.C. Cir. 1977).

[16] Cert. denied, 434 US 1040 (1978); MCI Telecom Corp. v. FCC (Execunet II), 580 F.2d 590 (D.C. Cir. 1978).

the possible effects of competition in these services.[17] In August 1980, the FCC declared MTS/WATS competition to be in the public interest.[18]

The FCC has subsequently moved to allow wide open competition with reduced regulation in the interstate market. To that end, the FCC's Competitive Carrier Decision ordered that communications common carriers be classified as either "dominant" or "non-dominant" in their respective markets;[19] only dominant carriers have since been subject to traditional rate base rate-of-return regulation. Non-dominant carriers are free to enter and exit the marketplace, build or acquire facilities, introduce new services and set rates without regulatory approval. Currently, only AT&T is regulated by the FCC as a dominant carrier.

The international telecommunications market has also been subject to significant change. Beginning in 1979, the FCC made a number of decisions that affected the structure of the market.[20] These decisions dramatically reduced barriers to entry and placed emphasis on increased competition as a substitute to regulation. The intent, as in the domestic market, was to benefit the consumer through lower prices, improved service and technical innovation via a more competitive market structure. AT&T's almost 100 per cent control of international MTS traffic has subsequently been challenged by competitive carriers such as MCI, US Sprint and Hawaiian Telephone (a GTE subsidiary). In 1985, the FCC released its International Competitive Carrier Order which streamlined the regulatory procedures under which the international service carrier had been operating.[21] Essentially, the order brought the FCC's domestic Competitive Carrier Proceeding to the international scene. The FCC found that only AT&T and foreign carriers were dominant in the provision of international MTS. It has not made a formal finding with respect to resale and shared use of international communications services.

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[17] FCC, CC Docket 78-72, "In the Matter of MTS and WATS Market Structure," Notice of Proposed Inquiry and Rulemaking, 67 FCC 2d 757 (1978).

[18] FCC, CC Docket 78-72, "In the Matter of MTS and WATS Market Structure," First Report and Order, 81 FCC 2d 177 (1980).

[19] FCC, CC Docket 79-252, "In the Matter of Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorizations Therefore," First Report and Order, 85 FCC 2d 1 (1980).

[20] Ibid. Also FCC, CC Docket 80-176, "In the Matter of Regulatory Policies Concerning Resale and Shared Use of Common Carrier International Services Communications," Notice of Proposed Rulemaking, 77 FCC 2d 831 (1980); and CC Docket 80-170, "In the Matter of Proposed Modification of the Commission's Authorized User Policy Concerning Access to the International Satellite Services of the Communications Satellite Corporation," Second Report and Order, 100 FCC 2d 177 (1985).

[21] FCC, CC Docket 85-107, "In the Matter of International Competitive Carrier Policies," Report and Order, 102 FCC 2d 812 (1985).

However, it has not restrained a number of carriers from eliminating or narrowing the restrictions on resale and shared use that are contained in their tariffs.

A major event that marked a turning point for the structure of the U.S. industry and the nature of competition was the 1982 settlement of an antitrust suit brought by the U.S. Department of Justice against AT&T.[22] In that suit, the Justice Department had been concerned that AT&T, particularly through its control of equipment manufacturing and local exchanges, had engaged in predatory behaviour. The suit was settled through an agreement between the Department of Justice and AT&T in which AT&T agreed to divest itself of its local operating companies (effective January 1, 1984) on the condition that it could enter certain areas of information services and foreign markets. The 1982 Consent Decree modified an earlier Consent Decree (1956) which had restricted AT&T from competing in certain markets.[23]

The agreement was given effect through a court-sanctioned Modification of Final Judgment (MFJ), which was issued by presiding U.S. District Court Judge Harold Greene, changing the terms of the 1956 decree. The MFJ provided a blueprint for the restructuring of AT&T. It also contained a number of key provisions relating to the structure of the industry as a whole: AT&T would divest itself of its 22 local Bell operating companies (BOCs), and they would be consolidated into seven independent regional Bell holding companies (RBHCs);[24] a central staff would be organized for the holding companies, later known as Bell Communications Research (Bellcore), and the service areas of the BOCs would be organized into 161 Local Access and Transport Areas (LATAs).[25] The remaining AT&T units – Long Lines (long distance service), Bell Telephone Laboratories (R&D) and Western Electric (telephone equipment manufacturing) – would constitute the reorganized AT&T.

The MFJ also defined the business activities of the restructured AT&T and the RBHCs. AT&T was precluded from using its own transmission facilities to provide electronic publishing services for a seven-year period, although it could compete in any other communications-related markets it chose. The RBHCs were prohibited from entering the information services and customer premises equipment manufacturing markets. They were, however, permitted to publish "Yellow Pages" directories and to offer local and long distance services within

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[22] United States v. American Telephone & Telegraph Company, 552 F. Supp. 131, 195 (D.D.C. 1982), aff'd sub nom., Maryland v. United States, 460 US 1001 (1983); United States v. Western Electric Co., 569 F. Supp. 990 and 1057 (D.D.C. 1983).

[23] United States v. Western Electric Co., 1956 Trade Case, para. 68,246 at 71,134 (D.N.J. 1956).

[24] The Regional Bell Holding Companies include: NYNEX Corporation, Bell Atlantic Corporation, BellSouth Corporation, Ameritech Corporation, Southwestern Bell Corporation, U.S. West and Pacific TELESIS Group.

[25] There are now 193 LATAs, including the serving areas of some non-Bell telephone companies.

LATAs, including access services to other carriers providing long distance services. The FCC has also taken several steps which complement the MFJ, including its equal access activities, its Computer II and III rulings and the Joint Cost Proceeding.[26]

Perhaps the most important conditions of the MFJ affecting the nature of the competitive environment were restrictions that precluded the BOCs from providing interLATA long distance services and a requirement that they offer "equal access," in all local exchanges having 10,000 or more access lines, to any carrier authorized to provide interLATA services.[27] The intent of the equal access provision was to overcome preferential treatment previously accorded to AT&T.

Under the MFJ's equal access provision, the BOCs were required to provide switched access to all carriers authorized to provide interLATA long distance services on equal terms and conditions. This was accomplished by creating an access arrangement known as "Feature Group D." When Feature Group D was available in a LATA, earlier arrangements whereby non-AT&T carriers received substantial interconnection charge discounts relative to AT&T from the local telephone companies would be phased out.

The RBHCs were expressly permitted to request the Court to remove the "line-of-business" restrictions imposed on the divested Bell companies by the MFJ on a case-by-case basis (through "waivers"), upon demonstrating that there was no likelihood of monopoly power abuse. In addition, the MFJ was to be reviewed after three years.

In his first review of the MFJ in 1987, Judge Greene reaffirmed all of its major provisions even though there had been considerable pressure to allow the RBHCs to compete in the manufacturing of customer premises equipment. Judge Greene also removed the need for continued waivers in order for the RBHCs to engage in non-telecommunications related businesses.

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[26] The FCC's Computer II Decision required AT&T to provide enhanced network services and terminal equipment through separate subsidiaries. This requirement was, however, lifted by the FCC's Computer III Decision. (See Second Computer Inquiry, 77 FCC 2d 384 (1979) (Final Decision), aff'd on reconsideration, 84 FCC 2d 50 (1980), 88 FCC 2d 512 (1981), aff'd sub nom; also Phase I, CC Docket 85-229, Report and Order, 104 FCC 2d 958 (1986), reconsidered, 2 FCC Rcd 3035 (1987); and Joint Cost Order, CC Docket 86-111, 2 FCC Rcd 1298 (1987), reconsideration, FCC 87-305 (released 16 October 1987).)

[27] Equal access is commonly referred to as one-plus (1+) dialling; that is, the standard dialling procedure of 1 plus area code plus line number or variations pertaining to, for example, international services or operator-handled calls. With equal access, customers can choose, on a presubscription basis, which long distance carrier will be reached with 1+ dialling.

3.1.2 Interstate Access Charges

In 1979, following MCI's entry into the MTS/WATS market, the FCC approved AT&T's Exchange Network Facilities for Interstate Access (ENFIA) tariff, which provided the basis for compensation to local telephone companies for the use of local interconnection facilities required by new competitors (e.g., MCI) to provide MTS/WATS. Prior to the adoption of ENFIA, MCI and other specialized carriers had been allowed connection to the local exchange for the provision of private line services, and they had paid for these connections according to the general tariffs governing private line services to business customers. The ENFIA charge was based on the interstate component of a cost allocation plan for AT&T Long Lines revenues to compensate other telephone companies for the use of their facilities in making MTS and WATS calls. Under the ENFIA tariff, competitive long distance carriers were required to compensate local operating companies for the use of their facilities to originate and terminate long distance traffic. Accordingly, the long distance carriers were required to pay for both access lines to the local exchange and a contribution towards a portion of the non-traffic sensitive (NTS) costs of local plant allocated to the interstate jurisdiction.

Under the ENFIA arrangements, long distance carrier charges towards the contribution to NTS costs were set at between 35 and 55 per cent of AT&T payments. Per-line charges were assessed based on an assumed average level of traffic. Contribution discounts were intended to reflect a lower quality of interconnection relative to AT&T.

NTS costs are those that do not vary with usage. Much local exchange equipment consists of facilities required to connect subscribers to a central office, providing the linkage necessary to place or receive local and long distance calls. Such facilities (e.g., local loops) are needed regardless of the amount of subscriber traffic and are therefore considered to be non-traffic sensitive. At the time the ENFIA tariff was implemented, approximately 25 per cent of NTS costs were allocated to the interstate (FCC) jurisdiction, 25 per cent to the intrastate jurisdiction and the remaining 50 per cent to local service. Although NTS access costs did not vary with use, it had been regulatory policy to recover a share (50 per cent) of the costs from usage sensitive rates for long distance services in order to reduce the share of costs allocated to and otherwise recovered in rates for local service.

The ENFIA agreement was designed to provide an interim formula for the computation of long distance carriers' interconnection charges until a more comprehensive system was established. The FCC examined the matter of nation-wide access charges as part of its MTS/WATS market structure inquiry in Docket 78-72. In 1983, the FCC released a major decision on access charges intended to alter fundamentally the pricing structure of telephone service.[28] The basic premise of the FCC's Access Charge Plan was that eventually all the NTS costs incurred in the use of the local network and allocated to the interstate jurisdiction

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[28] FCC, CC Docket 78-72, "In the Matter of MTS and WATS Market Structure," Third Report and Order (known as the Access Charge Order), 93 FCC 2d 241 (1983).

should be recovered by means of a Subscriber Line Charge. The FCC stated that its plan was intended to fulfill four goals, including: (1) removing discrimination in rates for long distance services by reducing subsidization; (2) promoting economically efficient use of the local and long distance networks by moving prices towards costs; (3) preventing uneconomic bypass; and (4) preserving universal service.

Long distance carrier contribution payments above the actual traffic sensitive cost of interconnection were perceived to result in artificially high long distance service prices relative to their actual costs. From the perspective of the FCC, the artificially high price of long distance service created an incentive for large telecommunications users to bypass local exchange interconnection facilities (and thus avoid paying the NTS contribution). The FCC was concerned that, over the long run, subscriber migration through bypass would decrease revenues used to recover NTS costs and, in addition, leave telephone companies with stranded investment (facilities previously required to transport and switch long distance traffic). In the opinion of the FCC, these revenue reductions and stranded investments would exceed any savings associated with carrying less traffic, raising the average cost for remaining subscribers and thus potentially jeopardizing the provision of universal service.

The FCC's Access Charge Plan was comprised of several elements, including:

(1) A Subscriber Line Charge paid by all business and residential telephone subscribers in order to recover NTS costs assigned to interstate service;

(2) A Carrier Common Line Charge imposed on all interstate long distance carriers to recover any NTS costs not recovered from subscribers;

(3) Special Access Charges for services and facilities dedicated to a specific customer;

(4) A Premium Access Charge to be levied on AT&T for the superior quality of access received relative to other interstate carriers (an interim charge);

(5) Traffic Sensitive Charges to be paid by all interstate long distance carriers.

The Subscriber Line Charge (SLC) is a fixed monthly charge per customer access line that is intended to cover the NTS costs assigned to the federal jurisdiction. The SLC does not cover all NTS costs allocated to the federal jurisdiction; the balance is recovered through the Carrier Common Line Charge, as indicated above. The SLC is billed and retained by each local telephone company.

The FCC has established three separate SLCs for: (a) residential and single-line business subscribers, (b) multi-line business and PBX subscribers, and (c) Centrex lines installed prior to July 27, 1983. Exhibit 3-2 summarizes past and future changes in such charges. The residential/single-line business SLC started at $1.00 per line per month and is to be increased to a maximum of $3.50 in 1989. Multi-line business and post-July 27, 1983 installed Centrex customers pay a set $6.00 maximum per line per month. (Subscribers in some jurisdictions pay less

EXHIBIT 3-2

Monthly Subscriber Line Charges

(Per Line, $ U.S. Per Month)

DATE	RESIDENTIAL & SINGLE-LINE BUSINESS	MULTI-LINE BUSINESS*	CENTREX**
25 May 1984	$0.00	$6.00 max.	$2.00
1 June 1985	1.00	6.00 max.	2.00
1 June 1986	2.00	6.00 max.	3.00
1 July 1987	2.60	6.00 max.	4.00
1 Dec. 1988	3.20	6.00 max.	5.00
1 Apr. 1989	3.50	6.00 max.	6.00

* Actual charges are determined on the basis of individual companies' costs. They averaged $4.99 in 1984 and currently average $5.12.

** For Centrex lines installed prior to 27 July 1983. Centrex lines installed subsequently are treated the same as multi-line business.

SOURCE: Communications with Federal Communications Commission (FCC), Industry Analysis Division.

than the $6.00 maximum where the total interstate-assigned per line revenue requirement is lower.) Pre-July 27, 1983 Centrex line charges started at $2.00 per line per month in 1984 and will increase to a maximum of $6.00 in 1989.

The Carrier Common Line Charge (CCLC) is imposed on all long distance carriers on a per-minute-of-use basis to recover the NTS costs not collected through the SLC. Exhibit 3-2 summarizes the historical level of SLC charges. Exhibit 3-3 outlines the history of the CCLC from its implementation to January 1988. The rates charged reflect the increasing SLC together with increased long distance usage and the effects of equal access (i.e., phasing out of discounted carrier access) and reduced allowed rates of return for local telephone companies. Originating use charges have also been selectively lowered to reduce the threat of local bypass.

Special Access Charges were created by the FCC to cover services and facilities dedicated to a specific customer, generally for non-switched access. Special Access facilities are generally used by long distance carriers in connection with private line and foreign exchange services provided by them to their customers. These charges may vary from company to company.

The Premium Access Charge was an interim charge levied on AT&T in recognition of the fact that it was provided with a superior quality of access compared to other interstate long distance carriers. This access charge differential has been disappearing as equal access becomes available to all long distance carriers on an exchange-by-exchange basis throughout the United States. Other interstate long distance carriers receive a discount of 55 per cent on their CCLC where such a charge is still applicable. The discount disappears as soon as equal access becomes available, even if the carrier chooses to use some other form of access.

Traffic sensitive charges are levied on long distance carriers by local telephone companies to cover the ongoing costs incurred in carrying long distance traffic between customers and the long distance carrier's point of presence. These charges are for transmission, switching, billing, collection and directory assistance, and they are set on a causal cost basis by each local telephone company.

Prior to the implementation of the FCC's Access Charge Plan, a similar function was provided by the Division of Revenues, and Separations and Settlements processes. AT&T was the administrator of that process, and it was also responsible for the preparation of interstate long distance tariffs. When the new FCC access charge scheme was introduced, since it involved a number of long distance carriers providing interstate services, a new administrator was required. The National Exchange Carriers Association (NECA) was created for this purpose. CCLCs are paid by interstate long distance carriers to NECA, which in turn distributes them to the local telephone companies on the basis of their actual NTS costs. All telephone companies were originally required to participate in the pool of common costs administered by NECA. Recently, however, the FCC has created an alternative mechanism whereby telephone companies may withdraw from the common line pool.

EXHIBIT 3-3

Carrier Common Line Charges

(Cents Per Minute)

DATE	ORIGINATING USE	TERMINATING USE
25 May 1984	5.24	5.24
1 Jan. 1985	5.43	5.43
1 June 1985*	4.79	4.79
1 Jan. 1986	4.33	4.33
1 June 1986	3.04	4.33
1 Jan. 1987	1.55	4.33
1 July 1987	0.69	4.33
1 Jan. 1988	0.00	4.14

* For a short period of time prior to 1 June 1985, in order to effect FCC-ordered refunds, the rate was 4.71 cents.

SOURCE: Economics and Technology, Inc., "Alternative Approaches to the Recovery of Access Costs: A Review of the U.S. Situation," study commissioned by the Ministry of Culture and Communications, Province of Ontario, March 1988, p.31.

It should be noted that the introduction and implementation of the FCC's Access Charge Plan has not been accomplished without controversy. For example, the FCC's decision that eventually all NTS costs allocated to the interstate jurisdiction would be recovered directly from telephone subscribers through the SLC means that all subscribers, whether or not they make or receive long distance calls, pay higher flat monthly charges. This movement away from the traditional (value-of-service) pricing of telephone services and the potential impact on universal availability of affordable telephone service was strongly objected to by consumer groups and by various state regulatory commissions. These concerns were communicated to their elected representatives and, as a consequence, proposals for federal legislation were introduced which would have required the FCC to revise or withdraw its Access Charge Plan.[29] In response to these initiatives, the FCC re-examined its Access Charge Order, reducing the initial monthly charge from $2.00 to $1.00 and delaying implementation of the SLC for one year.[30]

3.1.3 The LATA Market Structure

A key event that determined the current structure of the telephone industry and the nature of competition in the U.S. was the break-up of AT&T and the establishment of the 161 LATAs. Under divestiture, the BOCs - the local telephone companies - are permitted to provide local exchange and long distance services within each of their respective LATAs, but not between them. This is true even where the LATAs are adjacent and even if the same local operating company furnishes local service on both sides of a LATA boundary. No such restriction was placed on AT&T (or any other long distance carrier), and it can thus compete in interLATA markets and, where state regulatory practice so allows, in intraLATA markets.

The independent telephone companies and the two members of the Bell System that are not majority owned by AT&T, namely, Southern New England Telephone and Cincinnati Bell, are not subject to the MFJ. Those companies have the option of

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[29] H.R.4102, passed by the U.S. House of Representatives, 10 November 1983 (amended by H.R.4295); and S.1600, approved by the U.S. Senate Commerce Committee in September 1983, but later postponed. Passage of these bills would have either prohibited entirely or substantially delayed residential and single-line business subscriber line charge implementation.

[30] FCC, "Detailed Analysis of H.R. 4102," submitted to the House Committee on Energy and Commerce, 5 December 1983. The report summarizes the FCC's position on the bill and reviews the FCC's rationale respecting its Access Charge Plan. The FCC's CC Docket 78-72, "In the Matter of MTS and WATS Market Structure," First Reconsideration Order, 97 FCC 2d 682 (1983) modified the original Access Charge Order - Third Report and Order, 93 FCC 2d 241 (1983) - by ordering a more gradual transition to subscriber line charges for residential and Centrex-CO subscribers; the Second Reconsideration Order, 97 FCC 2d 834 (1984) deferred subscriber line charges for residential and single-line business to June 1985.

either dealing directly with the long distance carriers or associating with an adjacent BOC.

Most LATAs embrace geographical regions that extend beyond the local or even the extended calling area of any individual exchange. Twelve states are classified as "single LATA"; other states have more than one LATA. Exhibit 3-4, which provides a national LATA map, illustrates this fact. Individual local telephone companies thus provide a certain amount of relatively short-haul intraLATA long distance traffic in addition to local traffic. LATAs include, in general, not more than one major population centre such that whatever long distance traffic is included within the LATA is similar in character to local traffic in terms of its degree of dispersion and relative lack of concentration on any individual route.

The local telephone companies, in addition, provide for access from customers throughout the LATA to the long distance carriers' points of presence. This is an important aspect of divestiture and the LATA approach to access in that all customers throughout the LATA, not simply those in the local calling area of major centres, may avail themselves of the benefits of interLATA competition. A competitor need only establish one point of presence in the LATA to permit access by all customers to the interLATA services offered by that competitor. Competitors may, of course, establish more than one point of presence within a LATA, depending on the trade-off between switching and transmission costs and rates, which may be distance sensitive, charged by local telephone companies for interconnection.

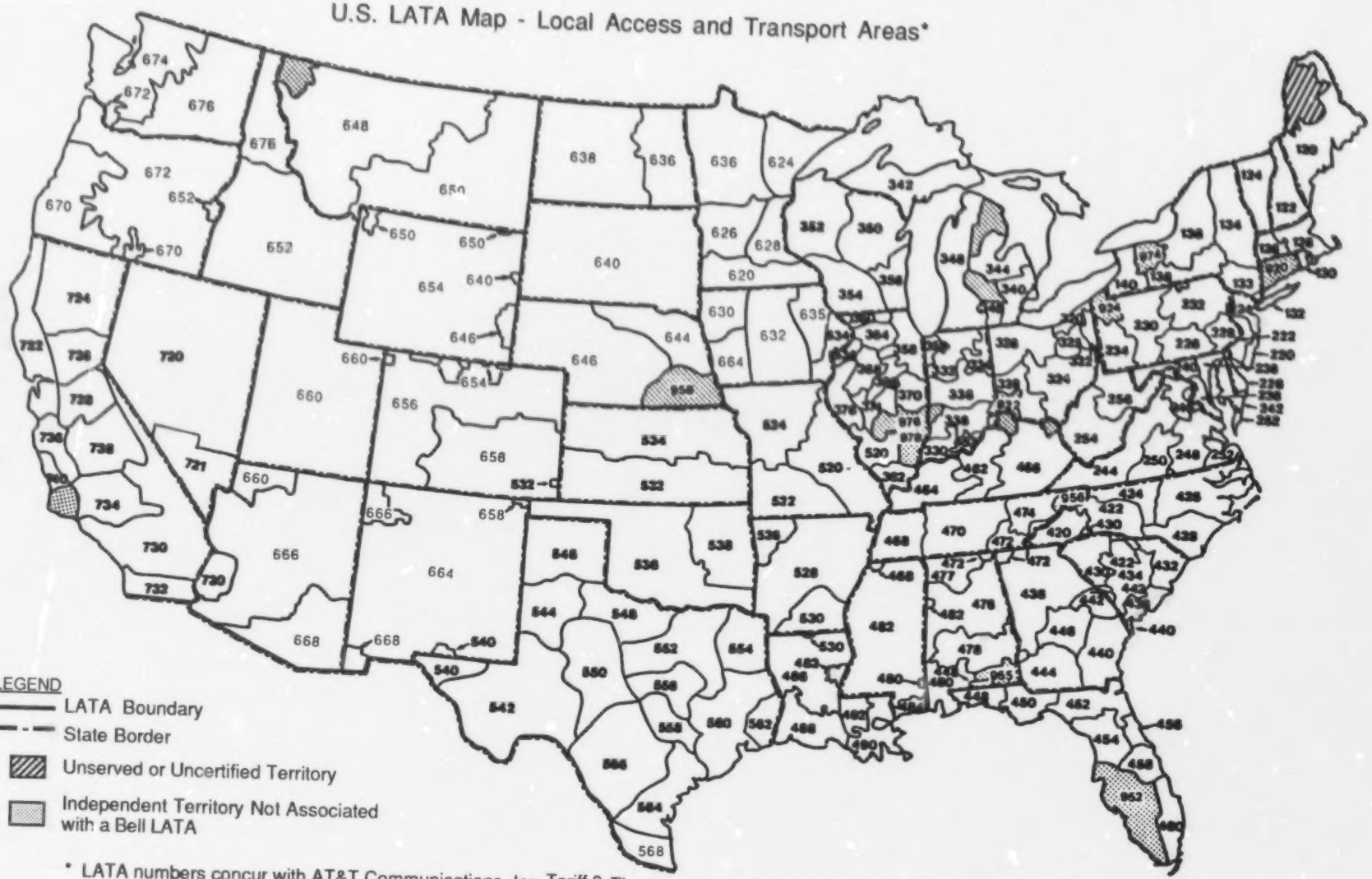
3.1.4 Regulatory Structure

The two-tier federal-state regulatory system in the U.S. divides control over the conditions of competitive entry between the FCC and state regulators. Hence, the FCC is responsible for interstate long distance services and for the associated access services. In the majority of cases, this corresponds to interstate interLATA service; in some cases LATAs cross state boundaries and, in such cases, the FCC regulates the interstate intraLATA component. State regulators, on the other hand, are responsible for all intrastate services, including local exchange services provided by the local telephone companies, intrastate interLATA and intrastate intraLATA services (whether provided by local telephone companies or by long distance carriers).

Long distance competition at the state level is a much more recent occurrence than interstate competition. Exhibit 3-5 presents a summary of the status of intrastate competition and regulation as of November 1987. Most multi-LATA states have permitted entry into the interLATA market and have adopted carrier access charges generally modelled on the FCC's plan. Some state regulators have also begun to revisit the view of the intraLATA markets as "natural monopolies" and to consider or implement some degree of intraLATA competition. Given the lack of concentrated blocks of long distance traffic as a consequence of the way the LATAs were designed, the development of intraLATA competition in most areas has been limited.

Exhibit 3-4

U.S. LATA Map - Local Access and Transport Areas*



* LATA numbers concur with AT&T Communications, Inc. Tariff 6. The map does not depict isolated exchanges associated with out-of-state LATA's. Hawaii (LATA 834) and Alaska (LATA 832) are both single-LATA states served by independent telephone companies. Other LATAs not depicted are assigned to Puerto Rico (LATA 845), Virgin Islands (LATA 822) and Midway/Wake (LATA 836).

SOURCE: Economics and Technology, Inc., study commissioned by the Task Force, Fig. 1.3.

EXHIBIT 3-5

Status of Intrastate Long Distance Competition and Regulation, as of 1 November 1987

	COMPETITION			DEGREE OF REGULATION		
		INTRALATA				
STATE	INTERLATA	LD CARRIERS	RESELLERS	AT&T	OCC	RESELLERS
Alabama	Yes	No	Yes	A,R,P	A,R,P	A,P
Alaska*	n/a	Pending	Pending	n/a	P	P
Arizona	Yes	Pending	Pending	B,R	B,R	D
Arkansas	Yes	No	Yes	A,R,P	A,P	A,P
California	Yes	Partial(1)	No	A,R,P	D	D
Colorado	Yes	Yes	Yes	A,P	A,P	D
Connecticut*	n/a	Pending(2)	Pending	n/a	P	P
Delaware*	n/a	Pending	Pending	P	P	P
Florida	Yes	Partial(3)	Yes	B,R	D	D
Georgia	Yes	No	Yes	B,P	A,R,P	D
Hawaii*	n/a	Partial(4)	No	n/a	A	n/a
Idaho	Yes +	Yes	Yes	C,R,P	P	D,P
Illinois	Yes	Yes	Yes	P	P	P
Indiana	Yes	No	Yes	A,R,P	A,P	A,P
Iowa	Yes	Yes	Yes	A,R	A,R(5)	A,R(5)
Kansas	Yes	Pending	Pending	B,R	D	D
Kentucky	Yes	No	Yes	A,R,P	D	D
Louisiana	Yes	Partial(6)	Yes	B,R	D	D
Maine*	n/a	Pending	Yes	P	P	A,P
Maryland	Yes	Yes	Yes	D	D	D
Massachusetts	Yes	Yes	Yes	A,R	A	A
Michigan	Yes	Yes	Yes	B,R,P	D	D
Minnesota	Yes	Yes	Yes	D(7)	D(7)	D(7)
Mississippi	Yes	No	Yes	B,R	B	D
Missouri	Yes	Yes	Yes	B,R,P	B,P	B,P
Montana	Yes	Yes	Yes	C,R	D	D
Nebraska	Yes	Yes	Yes	D	D	D
Nevada	Yes	Pending	Pending	D	D	D
New Hampshire*	n/a	No Action	No Action	n/a	n/a	n/a
New Jersey	Yes	No	Yes	B,R	B	D
New Mexico*	n/a	Yes	Yes	A,R	A	A
New York	Yes	Yes	Yes	B,R,P	C,P	C,P
North Carolina	Yes	No	Yes	C	D	D
North Dakota	No action	No	Yes	n/a	n/a	D
Ohio	Yes	Yes	Yes	B,P	B,P	B,P
Oklahoma	Yes	No	Yes	A(8)	A(8)	D,P
Oregon	Yes	Yes	Yes	B	D	D
Pennsylvania	Yes	Yes	Yes	A(9)	A(9)	D
Rhode Island*	n/a	No Action	No Action	n/a	n/a	n/a
South Carolina	Yes	Partial(10)	Yes	C	C	C
South Dakota*	n/a	No	Yes	n/a	n/a	D,P
Tennessee	Yes	Pending	Yes	C	D	D
Texas	Yes	Yes	Yes	B,R	D	D
Utah*	n/a	No	Yes	n/a	n/a	D
Vermont*	n/a	Yes	Yes	n/a	D	D
Virgina	Yes	No	Yes	D	D	D
Washington	Yes	Yes	Yes	D	D	D
West Virgina	Yes	Pending	Pending	D	D	D
Wisconsin	Yes	Pending	Yes	A,R,P	A,P	D
Wyoming*	n/a	Pending	Yes	n/a	n/a	A

\+ Approved in principle but competing companies not yet certified
OCC = Other Common Carrier; a facilities-based carrier other than AT&T
* Single-LATA state
n/a = Not Applicable

NOTES:

A - No pricing flexibility; any tariff change requires prior state approval
B - Banded rates; company free to move rates between ceiling and floor levels
C - Ceiling prices only; company can set rates at any point below rate ceiling
D - Full pricing flexibility; company may reprice without prior state review
F - Floor prices only; company can set rates at any point above floor level
P - Pending proceeding may result in changes to regulation in the future
R - Rate of return prescribed by state
I - Service available under state-specific tariff
U - MCI has the authority to provide intrastate service with no tariff and has state-specific rates
W - Filed awaiting approval
X - Filed but suspended
Y - Megacom only, no Megacom 800

(1) Intra-LATA competition in Calif. limited to T-1 data services
(2) Connecticut IXC docket limited to private line and resold services only
(3) IXC competition allowed between Florida's "mini-LATAs"
(4) Hawaii permits competitive private line data services only
(5) Iowa does not regulate telecom firms having fewer than 15,000 subscribers
(6) Telcos can compete intra-LATA but not facilities-based carriers
(7) Minn. PUC can order rollback and refund for 10 months after effective date
(8) Oklahoma has 30 days to veto rate changes; inaction means approval
(9) Changes below threshold level are decided within 30 days; denial is rare
(10) Limited to one carrier that began S.C. service before creation of LATAs

SOURCE: State Telephone Regulation Report, "Status of Intrastate Competition and Regulation (as of November 1, 1987)," 5 November 1987, Table at p.6.

3.1.5 Entrants into the Long Distance Marketplace

The current competitive providers of long distance services in the U.S. are characterized by the following categories:

(1) Major facilities-based long distance carriers providing service on a national basis;

(2) Regional facilities-based carriers; and

(3) Resale carriers.

By the end of 1986, 40 per cent of U.S. LATAs were served by four or more facilities-based long distance carriers; 75 per cent were served by three or more carriers; 89 per cent were served by two or more; only 11 per cent were served by AT&T alone.

Among the more than 500 long distance carriers, mostly resellers, currently providing services in the U.S., the main players are the three largest national facilities-based carriers, AT&T, MCI and US Sprint. AT&T, as outlined above, now competes in its divested form. Although one-fifth its former size, AT&T remains the dominant carrier in the long distance marketplace. Its advantages stem from its size, a long history as the "telephone company," its image as a dependable, high quality service provider and its extensive knowledge of the marketplace. MCI has been at the forefront of competitive activity in the long distance market in the United States. From its formation in the late 1960s, it has grown from a fledgling company providing competitive private line services to a multi-billion dollar provider of domestic and international communications services. It has invested heavily in transmission facilities and now has a network spanning much of the United States. US Sprint was formed on July 1, 1986 when United Telecommunications, Inc. combined its US Telecom's voice and data communications operations with those of GTE Sprint and GTE Telenet (a value added network for data transmission). The merger paired US Telecom's considerable business customer base with GTE Sprint's larger and predominantly residential base.[31] In addition to the three main national carriers, there are a number of other much smaller facilities-based carriers.

In the second category, there is a growing number of partially facilities-based long distance carriers which operate on a regional basis. These include, for example, ALC Communications Corporation (Allnet Communication Services, Inc. and, formerly, Lexitel), ITT Communications Services, Inc.'s United States Transmission Systems, Inc. (ITT-USTS) and RCI Corporation. The period since divestiture has also seen dramatic growth in the number of carriers' carriers, of

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[31] GTE Corp., Press Release, 20 July 1988. GTE has announced that its Board of Directors has approved an agreement enabling United Telecommunications Inc. to purchase controlling interest in US Sprint. GTE stated that the transaction is expected to close on 3 January 1989 or as soon thereafter as all necessary approvals are obtained.

which the National Telecommunications Network is an example.[32] These companies operate as regional wholesalers and specialize in marketing to transmission service vendors.

Resellers, the final category, consist of companies that lease transmission capacity in bulk from other carriers and resell that capacity to individual customers or groups of customers at prices high enough to make a profit yet sufficiently below the equivalent rates of the facilities-based carriers to attract customers. The resale market opened up in June 1981, when the FCC allowed resale to provide MTS and WATS-like services.[33]

In late 1982, a total of 35 resellers had entered the long distance voice market; by late 1984, the total had risen to 439. At the end of 1985, it had dropped to below 300 - largely as a consequence of higher carrier access charges combined with lower long distance rates in the first 18 months after divestiture. In 1986, the number had risen to 507 and by March 1987, it had reached 554.

Two types of resale exist: arbitrage and secondary resale. In this report, arbitrage refers to the practice of buying wholesale and selling retail, and is basically an unstable market function. Such activity exists largely because of the price differences between the bulk and individual MTS/WATS services of the facilities-based carriers. The elimination of carrier access charge discounts has had the effect of higher access costs being passed to the resellers, with a consequent decrease in resellers' profit margins. The more recent growth in resale activity is attributed to resellers finding niche markets in some of the relatively less served (in a competitive sense) areas of the country, and to the use of bulk facilities provided by carriers other than AT&T, particularly those of the regional wholesalers described above, which allows for more attractive profit margins. Many resellers are also becoming sophisticated network managers as well as more effective in marketing their services, especially on a local basis. This has contributed to the survival and growth of that carrier segment.

The other type of resale involves the formation of secondary resellers which are able to take advantage of the unused capacity of large corporations. Such resale is not subject to the vagaries of changes to facilities-based carriers' rates. The secondary reseller essentially acts as a marketer, selling excess capacity on behalf of private firms and earning a percentage of the profits.

3.1.6 Market Performance of the Competitors

The market share of competitors can be measured in a number of ways: (a) by corporate revenues; (b) by minutes of traffic carried; and (c) by the number of

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[32] Members include Consolidation Network, LDX Interstate, Litel, Micro Tel, Southern Net, Southland Fiber Network and Williams Telecommunications.

[33] FCC, "In the Matter of Regulatory Policies Concerning Resale and Shared Use of Common Carrier Domestic Public Switched Network Services," Report and Order, 48 RR 2d 1027 (1981).

customers. The market performance of the major competitors in terms of these measures is discussed below.

Exhibit 3-6 presents long distance company operating revenues for 1986. These figures indicate that, excluding local telephone company long distance revenues, in 1986 AT&T had 72.5 per cent of the long distance market; MCI had 13.6 per cent; and US Sprint had 7.7 per cent. ALC and Western Union were well back at 1.8 and 0.2 per cent, respectively.

AT&T's share of total interstate long-distance revenues has decreased over the years as indicated by Exhibit 3-7 (from 96 per cent in 1979 to an estimated value of about 70 per cent in 1987). Exhibit 3-8 indicates that AT&T has lost more in the business than residential market, with its 1987 interstate long-distance revenue market share estimated at 75.5 per cent for the residential sector and 59.4 per cent for the business sector. This same relative decline is seen if market share is measured in terms of interstate long-distance conversation minutes (Exhibit 3-9).

Exhibit 3-10 presents market share measured in terms of subscriber base. It should be noted that this may be a misleading measure of market share since customers can subscribe to a range of carriers and may choose on an individual call basis whether or not to use any particular carrier. The exhibit does indicate, however, that business subscribers have been the primary target of the carriers competing with AT&T.

3.1.7 Financial Performance of Major Competitors

Exhibits 3-11 to 3-13 present the financial performance of AT&T, MCI and US Sprint in recent years. AT&T's total operating revenues, which include sales of services, sales of products and rental services, have remained relatively constant, in the order of $33 to $34 billion, over the period 1984-1987. Net income increased during that time from about $1.4 billion in 1984 to over $2 billion in 1987. In 1986, however, net income fell to $139 million due to a major allocation for workforce reductions and facilities consolidation scheduled to occur over several years (but entirely attributed to 1986).[34]

MCI's operating revenues for the same period increased from approximately $2 billion to almost $4 billion. Net income was positive in three of the four years. In 1986 a loss of $448 million was experienced, which was attributed to local interconnection expenses that almost doubled from 1985 to 1986, to $1.6 billion up from $874 million. Additionally, MCI had restructuring charges and asset writedowns amounting to $585 million in 1986, as compared to $154 million in 1985.[35]

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[34] AT&T, 1987 Annual Report, p.30.

[35] MCI Communications Corporation, 1987 Annual Report, p.1.

EXHIBIT 3-6

MARKET SHARE -

Long Distance Operating Revenues, 1986

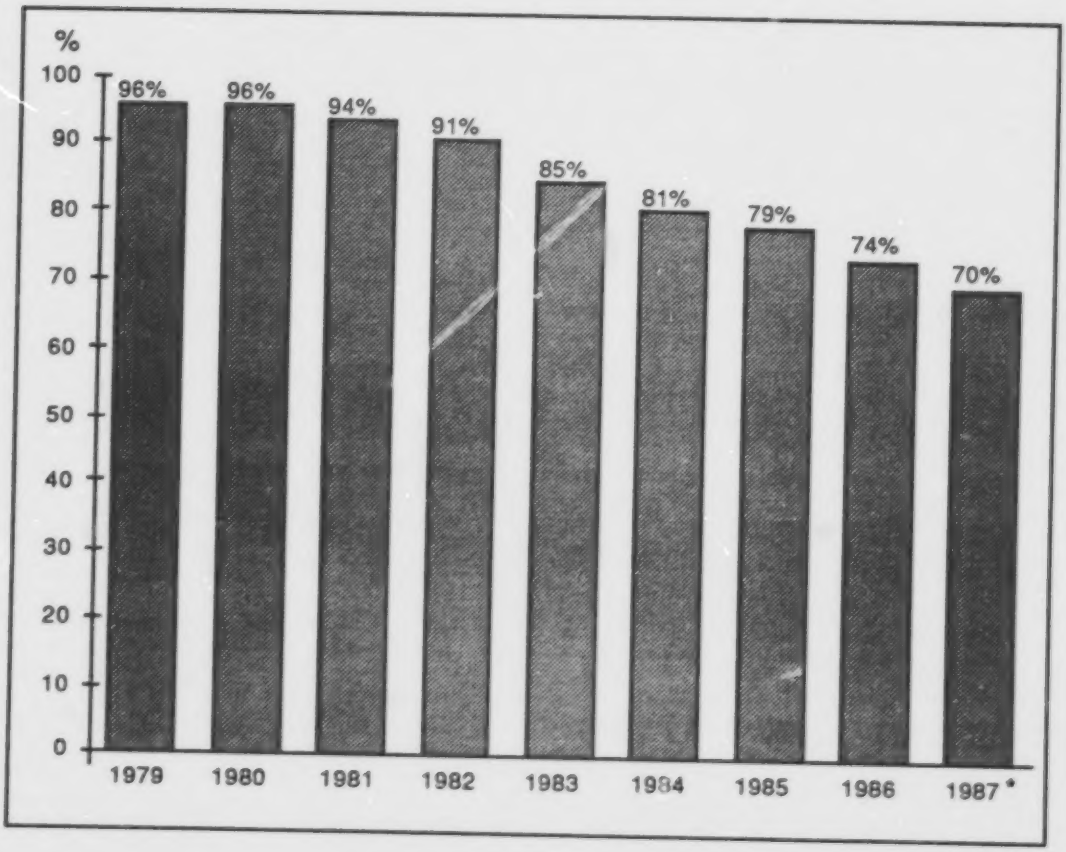
COMPANY	NET REVENUES ($ Billions)	PERCENTAGE SHARE
AT&T	19.11	72.5%
MCI	3.59	13.6
US Sprint	2.01*	7.7
ALC's Allnet	.47	1.8
Western Union	.06	0.2
Other LD Carriers	1.1	4.2
Total	26.34	

* US Sprint revenues for second-half 1986 ($1.14b), plus US Telecom revenues for first-half 1986 ($212.4m) and GTE Sprint revenues for first-half 1986 ($661.5m).

SOURCE: Booker Ellis, "Strategic Challenges: Inter-exchange Carriers Navigate a Treacherous Sea," Telephony, 9 March 1987, Figure 1.

Exhibit 3-7

Market Share -
AT&T Interstate Long Distance Revenues
1979-1987

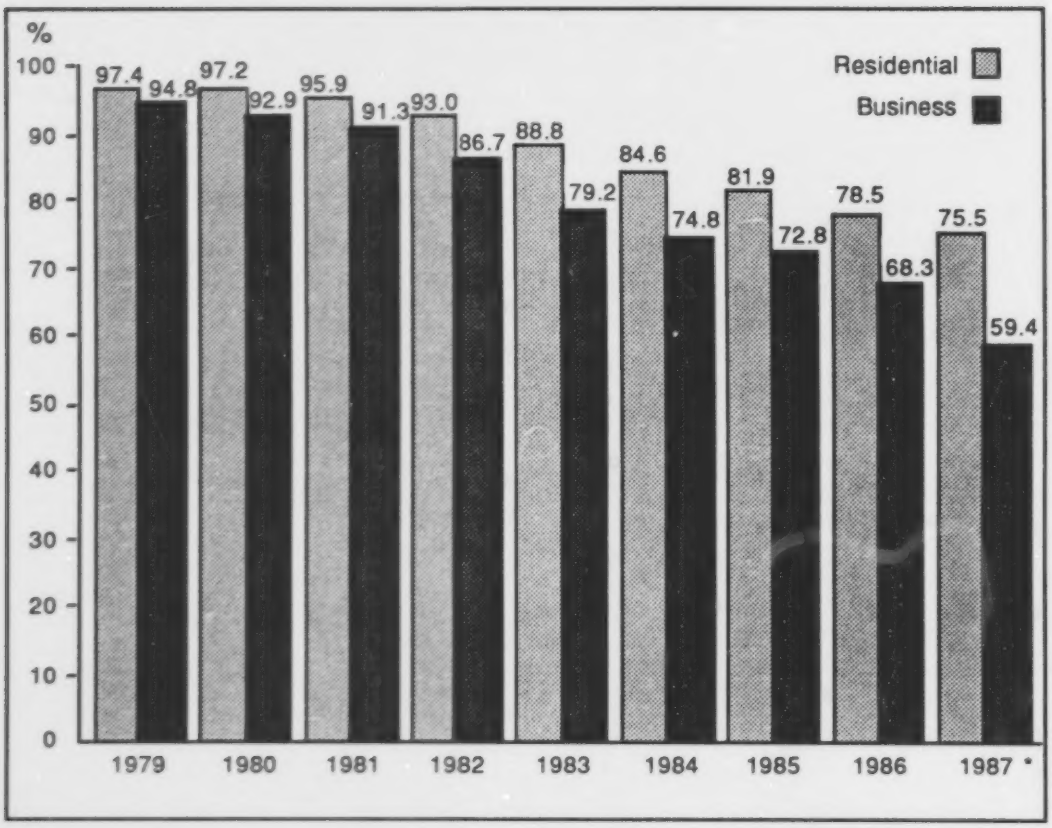


* Estimated.

SOURCE: Porter, Michael E., "Competition in the Long Distance Telecommunications Market: An Industry Structure Analysis," a study commissioned by AT&T, conducted by Monitor Co., Inc., October 1987, Fig. 3.

Exhibit 3-8

Market Share -
AT&T Long Distance Residential and Business
Revenues, 1979-1987

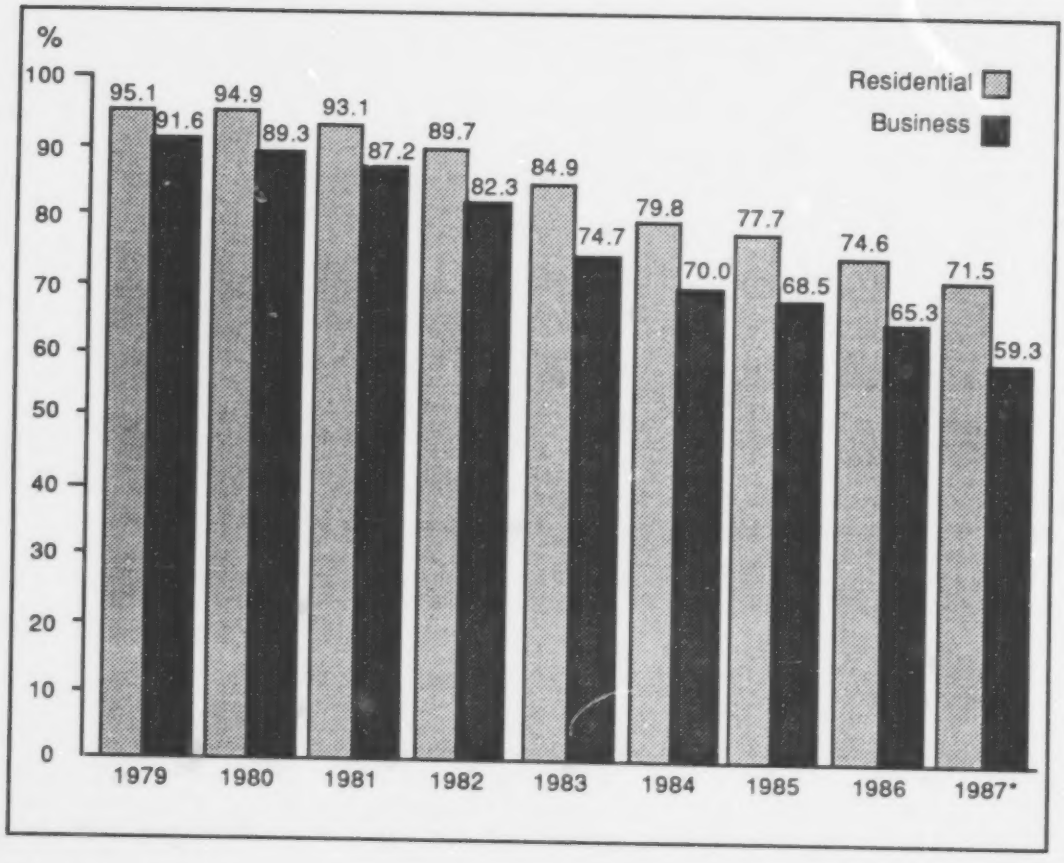


* Estimated.

SOURCE: Porter, Michael E., "Competition in the Long Distance Telecommunications Market: An Industry Structure Analysis," a study commissioned by AT&T, conducted by Monitor Co., Inc., October 1987, Fig. 5.

Exhibit 3-9

Market Share -
AT&T Long Distance Residential and Business
Conversation Minutes, 1979-1987



* Estimated.

SOURCE: Porter, Michael E., "Competition in the Long Distance Telecommunications Market: An Industry Structure Analysis," a study commissioned by AT&T, conducted by Monitor Co., Inc., October 1987, Fig. 4.

EXHIBIT 3-10

MARKET SHARE -

Business and Residential Subscriber Bases, 1986

COMPANY	BUSINESS SUBSCRIBERS (000)	PERCENTAGE SHARE	RESIDENTIAL SUBSCRIBERS (000)	PERCENTAGE SHARE
AT&T	8,000*	77.2%	80,000*	89.8%
MCI	850	8.2	5,000	5.6
US Sprint	1,050	10.1	3,650	4.1
ALC's Allnet	155**	1.5	310**	0.4
Other LD Carriers	309	3.0	117	0.1

* Estimated by Telephony.

** As of 30 September 1985.

SOURCE: Ellis Booker, "Strategic Challenges: Interexchange Carriers Navigate a Treacherous Sea," Telephony, 9 March 1987, Figure 2.

EXHIBIT 3-11

Financial Performance of AT&T

(Current Year $ Millions U.S.)

YEAR ENDED 31 DECEMBER	1984	1985	1986	1987
Total Operating Revenues*	33,187	34,417	34,087	33,598
Total Operating Expenses **	30,893	31,431	33,755	30,122
Net Operating Revenues	2,294	2,986	332	3,476
Other Income Items, Net	525	252	402	334
Interest Charges	867	692	613	634
Income Before Income Taxes	1,952	2,546	121	3,176
Income Taxes (Credit)	582	989	(193)	1,132
Net Income	1,370	1,557	139	2,044

* Includes sales of services, net of access charges, sales of products and rental revenues.

** Includes costs of services, products and rentals as well as selling, general and administrative expenses, research and development, and provision for business restructuring.

SOURCE: AT&T, Annual Reports.

EXHIBIT 3-12

Financial Performance of MCI

(Current Year $ Millions U.S.)

YEAR ENDED 31 DECEMBER	1984	1985	1986	1987
Total Operating Revenues*	1,959	2,542	3,592	3,939
Total Operating Expenses**	1,834	2,490	4,036	3,704
Net Operating Revenues	125	52	(444)	235
Other Income Items, Net	114	317	168	109
Interest Charges	189	201	187	238
Income Before Income Taxes	50	168	(463)	106
Income Taxes (Credit)	(9)	28	(32)	21
Income Before Extra-ordinary Items	59	140	(431)	85
Extraordinary Items	—	(27)	(17)	3
Net Income (Loss)	59	113	(448)	88

* Includes revenues from sales of communications services.

** Includes local interconnection, leased communications, sales, operating and general expenses, depreciation and restructuring charges and asset writedowns.

SOURCE: MCI Communications Corporation, Annual Reports.

EXHIBIT 3-13

Financial Performance of US Sprint*

(Current Year $ Millions U.S.)

	SIX MONTHS ENDED 31 DEC. 1986	TWELVE MONTHS ENDED 31 DEC. 1987
Total Operating Revenues	1,141	2,592
Total Operating Expenses	1,496	3,438
Net Operating Revenues	(355)	(846)
Network Write-down & Other Costs	--	274
Interest Charges	2	35
Income (Loss) Before Income Taxes	(357)	(1,155)
Income Taxes (Credit)	n/a	n/a
Net Income	n/a	n/a

* On July 1, 1986, US Sprint was formed from the merger of US Telecom, GTE Sprint and GTE Telenet.

SOURCE: United Telecommunications, Inc., 1987 Annual Report.

Total operating revenues for US Sprint since its formation on July 1, 1986 were approximately $1.14 billion for the second half of 1986 and $2.6 billion in 1987. US Sprint experienced losses before income tax of $357 million in 1986 and close to $1.2 billion in 1987.[36]

Capital investments to upgrade and expand nation-wide network facilities by all three carriers have been substantial. In 1985, 1986 and 1987, AT&T spent approximately $2.5, $2.6 and $2.7 billion, respectively. It has plans to spend another $3 billion in both 1988 and 1989.[37] During the three-year period ended December 31, 1986, MCI had invested more than $3 billion in its communications system. MCI has, however, budgeted to reduce capital spending on its network to under $800 million in 1988.[38] At year-end 1986, US Sprint had invested a total of $2.2 billion in its national network; by December 31, 1987, its total network investment amounted to $2.8 billion.[39]

3.1.8 Recent Telephone Service Rate Changes

Over the period since MTS/WATS competition was introduced in the U.S., substantial changes in telephone service rates have taken place in that country. These rate changes are discussed below in two ways: first, in terms of indices deflated by the Consumer Price Index (CPI) to give an indication of real monetary impact; second, as actual dollar rates (current year dollars) to illustrate how customers actually see the rate changes.

Exhibit 3-14 presents the overall telephone service index deflated by the CPI for all goods and services for the years 1950 to 1987. It shows that the general long-term trend of declining overall real telephone prices turned around after 1981 and began increasing, until 1986. This indicates that nominal telephone service prices began increasing at a rate faster than the general CPI.

Various components of the telephone index have also changed dramatically (Exhibit 3-15). While the local service price index (which also incorporates SLCs) fell between 1977 and 1980, it has risen since then, indicating real local price increases. Since 1977, the interstate price index has fallen in all years other than 1982 and 1983. Finally, the intrastate price index fell during the 1977-1981 period. Following small increases for several years, the intrastate index declined to a level below that of 1981.

Price changes in the U.S. can also be examined in terms of selected tariff rates. Exhibit 3-16 presents prices charged by AT&T for a five-minute daytime interstate call for distances ranging from 50 to 2,000 miles from 1977 to 1988.

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[36] United Telecommunications, Inc., 1987 Annual Report, p.28.

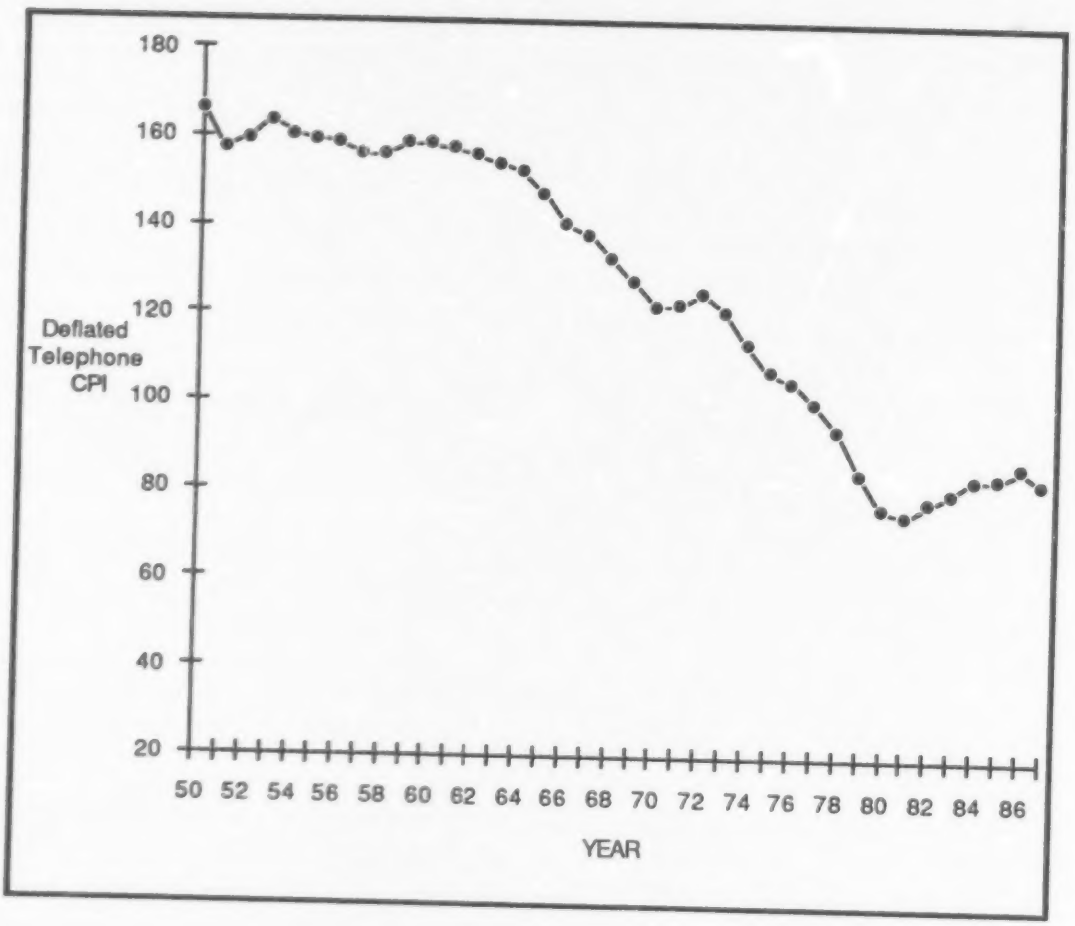
[37] AT&T (footnote 34, supra), p.24.

[38] MCI (footnote 35, supra), pp.23-24.

[39] United Telecom (footnote 36, supra), p.28.

Exhibit 3-14

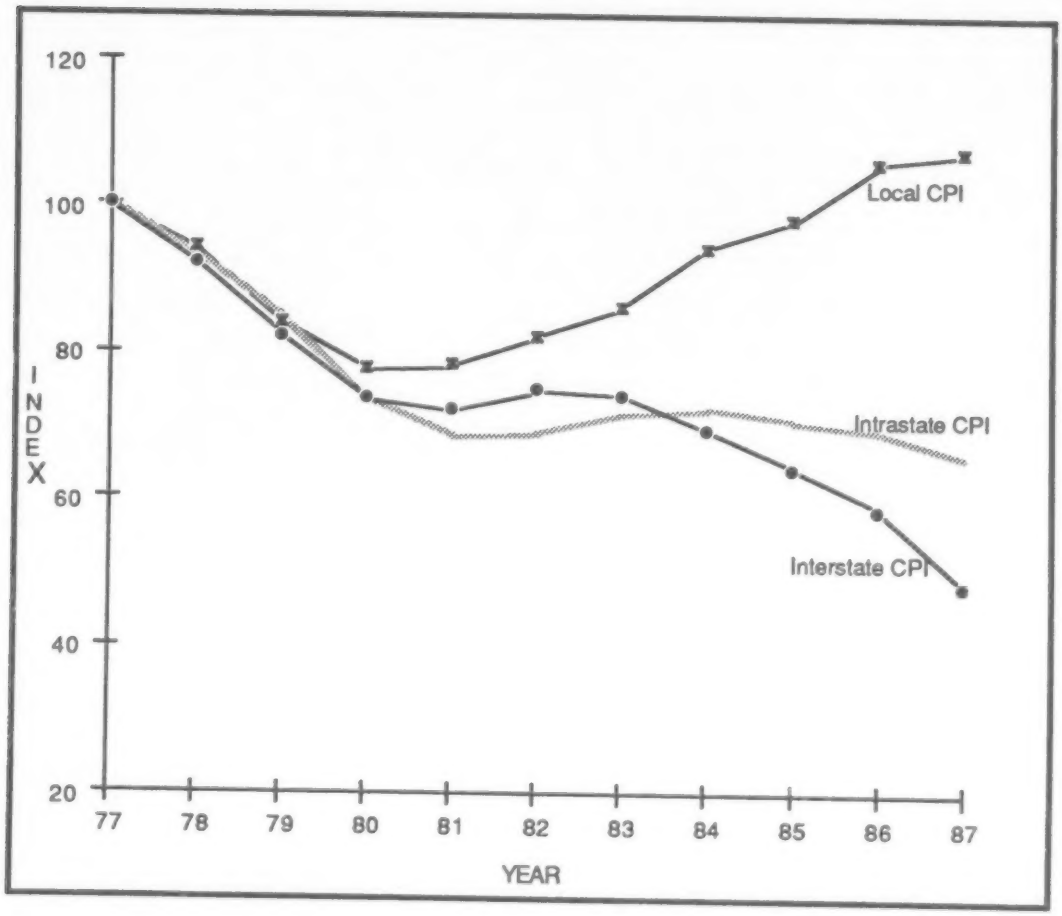
U.S. Telephone CPI Deflated by Total CPI
(Base Year 1977)



SOURCE: David Chessler and Associates, study commissioned by the Task Force.

Exhibit 3-15

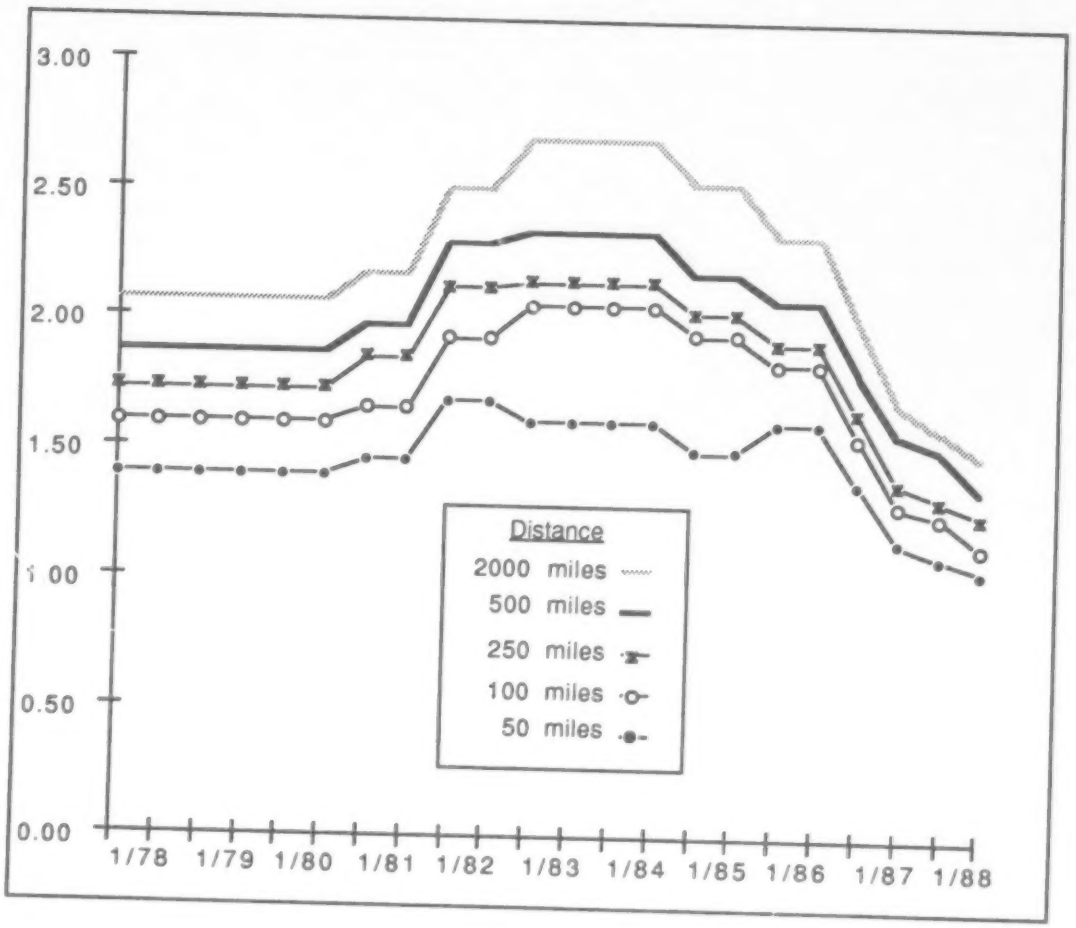
Deflated U.S. Telephone Price Indices
(Base Year 1977)



SOURCE: David Chessler and Associates, study commissioned by the Task Force.

Exhibit 3-16

Changes in the Price of Directly Dialled
Interstate Long Distance Calls, Nation-wide AT&T Uniform Rates
(5-minute daytime call, Current Year U.S. Dollars)



SOURCE: AT&T Tariffs.

Prices for such calls remained constant over the period 1977–1980, but subsequently increased by approximately 15 to 31 per cent, depending on the mileage band. In 1984, long distance prices began to fall such that by early 1988, decreases ranging from approximately 35 to 45 per cent had occurred, again depending on the mileage band. Exhibit 3–17 presents a comparison of day, and evening and night discount prices charged by AT&T for a similar call in 1977, 1982 and 1988. U.S. evening and night rate reductions have been smaller than peak-time (day) reductions over the period 1984–1988.

This recent decrease in prices can also be seen by examining the expenditures on interstate long distance service of two representative customers. Exhibit 3–18 and 3–19 show, respectively, the monthly interstate long distance bill for a medium-sized business and a high-usage residential customer using AT&T, MCI and US Sprint services over the period 1984–1987. The business customer was assumed to make 135 calls per month of varying distances and to take advantage of available bulk discounts. The residential customer was assumed to make 36 interstate calls per month of varying distances and to take advantage of available calling plan discounts. The monthly bill charged by all three carriers has fallen considerably over the period. Notably, the large price differential that existed between AT&T and the other two carriers has been reduced such that by 1987 only a small difference existed. In fact, average day, evening and night per-minute rates for long distance services provided by the three carriers show MCI and US Sprint to be only 4 and 6 per cent, respectively, lower than AT&T in March 1987.[40]

Exhibit 3–20 presents changes in AT&T's prices for directly dialled intrastate long distance calls of 50, 100 and 300 miles in selected states over the period 1977 to 1988. As the exhibit shows, prices (in current year dollars) for long distance calls within most of those states declined over the period. Iowa is a notable exception in that no price decreases have occurred at any of the distances considered. Another observation is that rates for the same distance band vary considerably by state; for example, current (1988) prices for a 300-mile call range from a low of $1.30 in Illinois to a high of $2.34 in Kentucky. Finally, one consultant observed that differences in the level of rates within different states are positively related to differences in the level of carrier access charges in these states.[41]

Exhibit 3–21 presents changes in BOCs' prices of directly dialled intrastate intraLATA long-distance calls in the same states for similar distances in 1985 and 1988 (the LATA structure did not exist in 1977 and 1981). Some states have left intraLATA prices for such calls unchanged, while others have increased prices marginally; still others have instituted modest price reductions. Overall, price changes for intrastate interLATA long-distance services have been far less

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[40] Michael E. Porter, "Competition in the Long Distance Telecommunications Market: An Industry Structure Analysis," a study commissioned by AT&T, prepared by Monitor Co., Inc, October 1987, p.55.

[41] David Chessler and Associates, study commissioned by the Task Force.

EXHIBIT 3-17

Changes in the Price of Directly Dialled Interstate Long Distance Calls in Discount Periods, Nation-wide AT&T Uniform Rates

(5-Minute Call, Current Year $ U.S.)

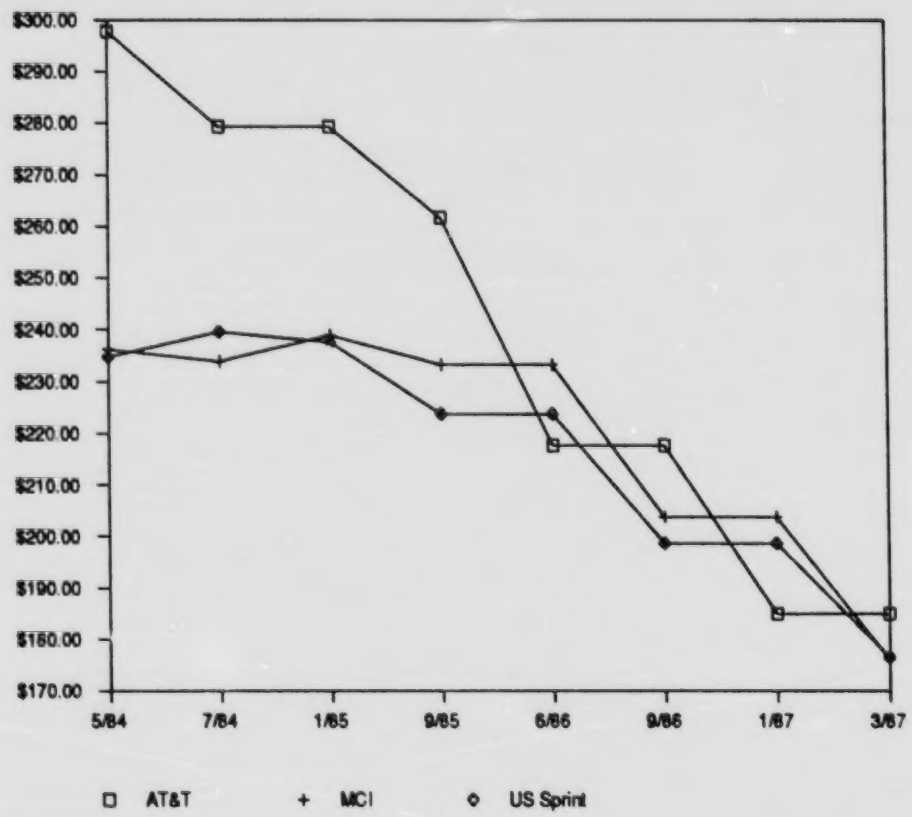
DISTANCE	TIME OF DAY	SEPT. 1977	APR. 1982*	JAN. 1988	1977-1982 % CHANGE	1982-1988 % CHANGE	CUMULATIVE % CHANGE
50 miles	day	$1.39	$1.60	$1.04	+15.1%	-35.0%	-25.2%
	evening	.90	.96	.68	+ 6.7	-29.2	-24.4
	night	.56	.64	.52	+14.3	-18.8	- 7.1
100 miles	day	1.59	2.05	1.13	+28.9	-44.9	-28.9
	evening	1.03	1.23	.73	+19.4	-40.6	-29.1
	night	.64	.82	.57	+28.1	-30.5	-10.9
250 miles	day	1.72	2.14	1.25	+24.4	-41.6	-27.3
	evening	1.12	1.28	.81	+14.3	-36.7	-27.7
	night	.69	.86	.63	+24.6	-26.7	- 8.7
500 miles	day	1.86	2.34	1.39	+25.8	-40.6	-25.3
	evening	1.21	1.40	.90	+15.7	-35.7	-26.6
	night	.74	.94	.69	+27.0	-26.6	- 8.7
2,000 miles	day	2.06	2.70	1.48	+31.1	-45.2	-28.2
	evening	1.34	1.62	.96	+20.9	-40.7	-28.4
	night	.82	1.08	.74	+31.7	-31.5	- 9.8
Discounts:	evening	35%	40%	35%			
	night	60%	60%	50%			

* Rates in effect at divestiture (1 January 1984).

SOURCE: AT&T Tariffs.

Exhibit 3-18

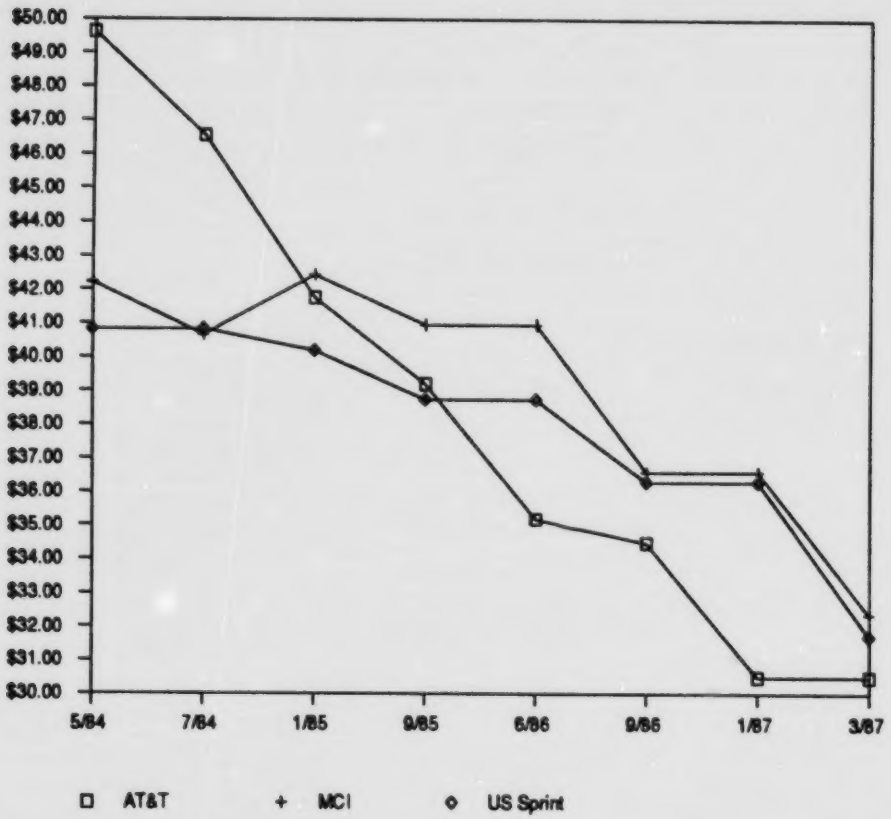
Interstate Monthly Long Distance Bill
for a Medium-Sized Business Customer



SOURCE: Economics and Technology, Inc., study commissioned by the Task Force, Fig. 2.7.

Exhibit 3-19

Interstate Monthly Long Distance Bill
for a High-Use Residential Customer



SOURCE: Economics and Technology, Inc., study commissioned by the Task Force, Fig. 2.8.

EXHIBIT 3-20

Changes in AT&T's Prices of Directly Dialled Intrastate Long Distance Calls in Selected States*

(5-Minute Daytime Call, Current Year $ U.S.)

STATE	50 MILES				100 MILES				300 MILES			
	1977	1981	1985	1988	1977	1981	1985	1988	1977	1981	1985	1988
California	$1.20	$1.10	$1.44	$1.14	$1.61	$1.51	$1.55	$1.30	$1.99	$2.06	$1.93	$1.51
Florida	1.75	1.71	1.52	1.48	2.22	2.02	1.99	1.68	3.04	2.43	2.27	1.89
Illinois	1.13	1.13	1.23	1.04	1.40	1.40	1.60	1.13	1.79	1.79	1.90	1.30
Iowa	1.35	1.41	1.57	1.57	1.55	1.61	1.78	1.78	1.85	1.86	1.98	1.98
Kentucky	1.79	1.88	1.88	1.60	2.31	2.36	2.31	1.91	3.20	3.20	2.74	2.34
Maine	1.49	1.64	N/A	N/A	1.81	2.34	N/A	N/A	2.09	2.34	N/A	N/A
Montana	1.18	1.19	1.42	1.30	1.62	1.53	1.82	1.45	2.32	2.04	2.47	1.75
New York	1.49	1.59	1.49	1.09	1.94	1.86	1.76	1.19	2.77	2.12	2.01	1.33
Virginia	1.42	1.51	1.51	1.18	1.59	1.71	1.67	1.24	1.75	1.83	1.83	1.44
Washington	1.35	1.39	1.24	1.19	1.55	1.59	1.60	1.37	1.80	1.84	1.92	1.62

* 1985 and 1988 figures are based on AT&T's post-divestiture rates for intrastate interLATA calls.

SOURCE: Economics and Technology, Inc., Boston, Massachusetts.

EXHIBIT 3-21

Changes in BOCs' Prices of Directly Dialled Intrastate IntraLATA Long Distance Calls in Selected States*

(5-Minute Daytime Call, Current Year $ U.S.)

STATE	50 MILES		100 MILES		300 MILES	
	1985	1988	1985	1988	1985	1988
California	1.39	1.39	1.80	1.80	1.11	1.11
Florida	1.52	1.52	1.99	1.99	2.14	2.27
Illinois	1.13	1.06	1.40	1.37	1.79	N/A
Iowa	1.40	1.25	1.56	1.52	1.76	1.61
Kentucky	1.88	1.88	2.32	2.31	2.62	2.62
Maine	1.92	1.86	2.43	2.43	2.43	2.43
Montana	1.25	1.14	1.60	1.44	2.15	1.89
New York*	1.06	1.12	1.69	1.32	1.43	1.50
Virginia	1.85	1.72	2.05	1.83	2.26	2.10
Washington	1.19	1.19	1.49	1.49	1.90	1.90

* Outside of New York Metropolitan LATA.

SOURCE: Economics and Technology, Inc., Boston, Massachusetts.

dramatic than AT&T's interstate rate changes, in spite of the fact that most states included in this exhibit allow intraLATA competition (Exhibit 3-5).

Two studies commissioned by the Task Force indicate that the long-distance rate reductions during the period January 1984 to January 1988 can be attributed primarily to regulatory actions and to the economic conditions of the times rather than to competition.[42] These include: deloading of non-traffic sensitive costs; separations changes which reduced interstate non-traffic sensitive costs assigned to long distance (i.e., removal of customer premises equipment and inside wiring); the requirement for AT&T to pass on Carrier Common Line Charge reductions to subscribers in the form of lower interstate long-distance rates; reductions in allowed rates of return; stimulation as a result of lower long distance rates; and the 1986 reduction in the U.S. corporate income tax rate from 46 to 36 per cent, which has reduced revenue requirements and may have resulted in the 1987 drop in the overall telephone service index. In addition, accelerated depreciation schedules have been adopted by a number of regulatory agencies.

Exhibit 3-22 presents a sampling of BOC local monthly rate changes in the same ten states over the period 1977-1988. Flat-rate monthly local rates (but not lifeline rates) are included for relatively comparable local exchange areas in all the states considered (Rate Group 1). For the purpose of identifying the more rural states, population density measured in terms of number of people per square mile is provided.

The rate changes summarized in this section have had varying impacts on different classes of users. Those residential and small business subscribers who use the telephone primarily for calling within a local exchange area experienced local rate increases without significantly benefiting from long distance rate reductions. Those rural subscribers who make primarily short-haul long distance calls experienced increases in both local and short-haul long distance rates. Those residential subscribers who take advantage of discount periods experienced the greatest short-haul rate increases and the least long-haul rate decreases. Those business and residential subscribers who do a significant amount of long-haul calling experienced long distance rate decreases. Finally, subscribers, who make most of their long distance calls during peak (daytime) periods, experienced the greatest price decreases.

3.1.9 Measures to Mitigate Adverse Effects of Higher Local Rates

Recognizing that the various changes which it had made to the industry, including introduction of the SLC, could have a detrimental effect on the availability of universal service, the FCC has implemented a number of mitigating mechanisms. Specifically, lifeline assistance programs and a Universal Service Fund have been introduced.

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[42] Economics and Technology, Inc., study commissioned by the Task Force. Also see David Chessler and Associates, study commissioned by the Task Force.

EXHIBIT 3-22

Changes in BOCs' Local Monthly Residential Rates in Selected States*

(Current Year $ U.S.)

STATE	POPULATION DENSITY (1)	RATE GROUP(2)	1977	1981	1985	1988
California(3)	151.4	N/A	$5.70	$5.70	$ 8.25	$ 8.25
Florida	180.0	1	8.60	8.60	8.55	8.00
Illinois(4)	205.3	1	5.35	5.15	9.85	9.88
Iowa	52.1	1	5.70	6.90	10.85	10.90
Kentucky	92.3	1	5.87	8.86	12.63	11.41
Maine	36.3	1	7.30	8.40	11.10	10.51
Montana(5)	5.4	1	4.65	5.00	13.11	13.11
New York (6)	370.6	1	6.57	5.90	8.80	9.27
Virginia	134.7	1	5.75	5.25	9.57	8.87
Washington	62.1	1	5.00	3.95	7.79	8.75

* Local exchange flat monthly rates for unlimited local calling (the lowest available, but not Lifeline service). Rates do not include the federal SLC ($1.00 in 1985 and currently $2.60), charges for telephone set rental, inside wiring maintenance, etc. None of these states have state-level SLCs.

NOTES:

(1) Number of people per square mile.
(2) Though defined in various ways, Rate Group 1 includes the smallest exchanges in each state.
(3) California has state-wide averaged rates.
(4) Rates do not apply to exchanges within the Chicago metropolitan area (where local service is provided on a measured basis only).
(5) Since divestiture, Montana has moved to state-wide rate averaging. Thus 1977 and 1981 rates, which are for Rate Group 1, cannot be compared with 1985 and 1988 rates, which are state-averaged.
(6) Rates do not apply to exchanges within the New York Metropolitan LATA.

SOURCES: Economics and Technology, Inc., Boston, Massachusetts; and communications with BOCs.

Lifeline assistance is designed to assist financially subscribers who might otherwise drop local telephone service because of SLCs as well as to assist those who currently do not subscribe. The FCC decided not to administer federal lifeline programs directly. It has concluded that state regulators, working with their local telephone companies, are in the best position to identify those low-income households within their jurisdiction that need assistance in paying for local telephone service. The FCC further concluded that federal lifeline programs should supplement state lifeline programs and provide state regulators with strong incentives to develop lifeline assistance programs appropriate to local needs.

The FCC, when it first introduced lifeline assistance, provided for a reduction in the federal SLC of up to 50 per cent to match state assistance to low-income households that satisfied a state-determined means test subject to verification. In December 1985, the FCC adopted broader lifeline assistance measures for low-income households. These measures provided for a reduction in fixed charges up to twice the federal SLC through a waiver of the full SLC up to the amount matched by state lifeline assistance. Matching state contributions could be in the form of reduced local telephone service rates, lower connection charges and/or reduced security deposit requirements.

In April 1987, the FCC introduced a two-phase program, called "Link Up America," which came into effect in October 1987, directed towards low-income households not currently subscribing to telephone service. This program is designed to defray the connection and installation charges which sometimes prevent households from joining the telephone network. Link Up America offsets one-half of connection and installation charges for one telephone line per household, up to $30.00, if eligibility criteria are met. When a local exchange company offers a deferred payment plan for service commencement and does not assess the subscriber any interest charges, Link Up America also makes federal assistance available to the telephone company to cover interest costs up to $200.00. In addition, the plan increases the limit of the federal matching contribution to correspond with a higher monthly residential SLC which is to increase to $3.50 per month by April 1989 (Section 3.1.2). Moreover, it encourages but does not require states to match the remaining half of the connection charges. The states and telephone companies are also encouraged to develop deferred payment plans for the remaining service commencement charges as well as to provide reductions in or waivers of security deposit requirements for low-income customers who have satisfactory credit histories.

The federal SLC waiver and Link Up America programs are funded by charges assessed on long distance carriers. Currently, the revenue requirements for these two programs are recovered through the CCLC. On April 1, 1989, however, the lifeline assistance revenue requirement will be recovered through flat-rate, per line charges assessed on long distance carriers.[43] The FCC's lifeline assistance programs are administered by NECA.

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[43] Federal Register, Vol.52, No.109, Monday, 8 June 1987, Rules and Regulations, p.21,536.

Lifeline services have been in place in some states for about 20 years – long before the advent of competition, the FCC's Access Charge Plan and divestiture – but they have greatly expanded since 1984 in response to the federal lifeline assistance programs. As of early 1988, 28 states offered one or both of the lifeline programs outlined above. Of these, 10 are among the 15 least densely populated states.

The use of federal lifeline assistance varies considerably among states. For example, California, which has a well developed lifeline program, is projected to receive almost $20 million in federal assistance in 1988. New York, in contrast, has a much less developed program and will receive only approximately $3 million, while Florida will receive $288,000 (from the Link Up America program only).

In addition to its lifeline programs, the FCC established a Universal Service Fund on January 1, 1986 to help telephone companies located in areas where costs are higher than average. Higher costs may arise because of geographical characteristics, lower population density or because of newer telephone facilities resulting from local exchange upgrades.[44]

The Universal Service Fund was introduced because of concerns that establishing the federal (interstate) share of NTS costs at a uniform 25 per cent could result in higher costs for some areas.[45] (In some states, the federal share has been considerably higher than 25 per cent which, when reduced, would cause a higher intrastate revenue requirement and likely result in higher local rates). The amount of assistance to which a telephone company is entitled depends on: (a) the dollar amount by which its subscriber loop costs exceed the national average, and (b) the number of subscriber access lines served by the telephone company. Companies whose NTS costs are 115 per cent or more of the national average are entitled to compensation.

The FCC recently indicated that the Universal Service Fund will be retargeted to provide an additional interstate expense allocation to small and medium-sized telephone companies and less assistance to large companies, that is, telephone companies with over 200,000 access lines.[46] Currently, the Universal Service Fund is financed through the CCLC. However, on April 1, 1989, the retargeted assistance will be recovered through flat-rate charges to carriers calculated according to the same methodology as federal lifeline programs. The Universal Service Fund is also administered by NECA.

The precise use of revenues from the Universal Service Fund is left to the discretion of individual state regulatory commissions. Just the same, the stated

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[44] Economics and Technology, Inc., "Alternative Approaches to the Recovery of Access Costs: A Review of the U.S. Situation," study commissioned by the Ministry of Culture and Communications, Province of Ontario, March 1988, p.25.

[45] Ibid.

[46] Federal Register (footnote 43, supra), p.21,537.

intent of the FCC in its establishment is that it be used to reduce local telephone rates in areas where they would otherwise be higher.

The number of households in the U.S. with telephones increased from 78.4 million in 1983 to 84.3 million in 1987. The national telephone penetration level, measured by the percentage of households with telephones, rose from 91.4 to 92.3 per cent during this period, an increase of roughly 1 per cent.[47] Subscribership growth is in part attributable to population growth. The telephone penetration level increase has occurred, however, despite higher customer (SLC and installation) and telephone company costs referred to earlier, suggesting that federal and state lifeline programs and the Universal Service Fund may have mitigated any negative effects of introducing the federal SLC and reducing the share of NTS costs assigned to the interstate jurisdiction.[48]

3.2 Competition in Public Long-Distance Telephone Service in the United Kingdom

This section outlines available information regarding competition in the United Kingdom. The research work for this section was conducted by staff members assigned to the Task Force.

3.2.1 Rationale for Change

Studies conducted by the U.K. government in the mid-1970s identified the need to promote competition in British technology and telecommunications industries in order to increase their efficiency and world-wide competitiveness. Competition, according to various U.K. government studies, was considered necessary to spur increased efficiency of existing service providers.[49] Additionally, it was considered that privatization of the telecommunications industry would result in an industry that was less protected by government from real market forces, more self-demanding and more innovative.

3.2.2 Legislative Changes Affecting the Structure of the Industry

The Telecommunications Act of 1981 was the first major legislative step to dismantle a monopoly in telecommunications that had existed since 1911. With passage of the Act, the national telephone service, British Telecommunications plc (British Telecom), was separated from the National Post Office's monopoly over postal and telecommunications services. The Secretary of State for Industry, on advice from British Telecom, was authorized by the Act to issue licences for entry into the telecommunications market. The first licence was issued to British Telecom, followed in 1982 by a licence to Cable and Wireless plc (C&W) to operate a telecommunications network as a joint venture of C&W, the British Petroleum

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[47] Economics and Technology, Inc., study commissioned by the Task Force.

[48] Ibid.

[49] Roger S. Turney, "Telecommunications Liberation in the U.K.: The British Get a Choice," Telephony, 26 October 1987, p.42.

Company plc and Barclays Merchant Bank - known as Mercury Joint Venture. Mercury Communications Limited, originally incorporated in 1981 as Cable and Wireless (Bahrain) Ltd., acted as managing agent for Mercury Joint Venture. In 1983, two national mobile cellular radio systems, Telecom-Securicor Cellular Radio Ltd. and Racal-Vodaphone Ltd., were licensed by the Secretary of State for Industry. The City of Kingston-upon-Hull, which owns its own telephone system serving only the local needs of the municipality, has also been licensed by the Secretary of State.

The next major legislative step came with the Telecommunications Act of 1984. This Act created the Office of Telecommunications (Oftel) and the post of Director General of Telecommunications. The Act also formalized the licensing of telecommunications carriers, namely, the licensing of Public Telecommunications Operators (PTOs). Oftel, a non-ministerial government department reporting directly to Parliament, provides advice to the Secretary of State in the licensing of PTOs. Oftel's other duties include supervising and enforcing conditions in the licences of PTOs, promoting the interests of consumers, and promoting the capacity of PTOs and suppliers to operate competitively in the international arena.

3.2.3 Control of Market Entry and Exit

The 1984 Act empowered the Secretary of State, after consultation with Oftel, to grant licences to PTOs. Licences are granted for a fixed duration and are revocable by the Secretary of State upon notice to the licence holder. Licensed PTOs fall into three categories:

(1) PTOs providing basic telecommunications services - voice and message (British Telecom, Mercury and the City of Kingston-upon-Hull);

(2) PTOs providing cellular radio telephone service (Telecom-Securicor Cellular Radio Ltd. and Racal-Vodaphone Ltd.); and

(3) PTOs providing broadband cable service (nine cable operators have been licensed).

The Secretary of State has announced that no further PTO licences for basic telecommunications services will be granted before November 1990. With the exception of the Kingston-upon-Hull City Council, British Telecom and Mercury will be the only licensed providers of basic telecommunications services until 1990. PTOs in categories 2 and 3 wishing to participate in the delivery of basic voice services must enter into interconnection agreements with either British Telecom or Mercury.

British Telecom's licence was issued in 1984 for a period of 25 years and is subject to revocation by the Secretary of State on ten years' notice. Notice of revocation, however, cannot be given any sooner than 15 years after the granting of the licence, so that British Telecom is, in effect, guaranteed a 25-year licence. By 1984, C&W had acquired all rights to Mercury Joint Venture from its original partners and, in 1984, a licence was issued to Mercury to operate as a PTO.

Mercury's licence contains the same provision regarding revocation on ten years' notice after the licence has been in effect for at least 15 years.

The licences issued to British Telecom and Mercury do, however, contain special provisions for revocation at any time by the Secretary of State. These special circumstances are:

(a) the licensee requests revocation; or

(b) the licensee fails to pay the initial licence fee, the annual renewal fee or any special fee to cover costs of regulation incurred by Oftel and the Monopolies and Mergers Commission; or

(c) the licensee fails to comply with an order made by the Director General of Telecommunications requiring the licensee to comply with conditions of its licence; or

(d) the licensee makes a general assignment in bankruptcy, enters into receivership, ceases to carry on business or winds up its business.

In summary, entry into the U.K. marketplace is entirely controlled by the Secretary of State for Industry. Having gained admission to the marketplace, British Telecom and Mercury's licences are virtually guaranteed for a period of 25 years, until the year 2009. No further entry for the provision of basic telecommunications services will occur before 1990.

3.2.4 Privatization of the Telecommunications Industry

Apart from legislative and regulatory changes, privatization has been a key factor in shaping the nature of the British telecommunications industry. In 1984, approximately 51 per cent of British Telecom's shares were sold publicly. Indirectly, Mercury was also privatized. Originally part owner of Mercury Joint Venture and by 1984 full owner, just under 50 per cent of U.K. government-owned C&W was offered for public sale in 1981. In 1983, the government's interest in the company was reduced to 23 per cent, and by 1985 all of its shares had been sold.[50] Thus, in a period of approximately five years, the U.K. moved from the monopoly provision of telecommunications services by the National Post Office to two privately-owned, competitive carriers. As noted subsequently, however, the characteristics of these two competitors vary considerably.

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[50] Cable and Wireless plc, Report and Accounts, various years.

3.2.5 Competition Today – British Telecom and Mercury

Although British Telecom's monopoly in the provision of public long-distance telephone service has been gradually eliminated, its dominant position in the market has only been partially weakened by the entrance of its new competitor, Mercury. The monopoly local and long distance telephone infrastructure that British Telecom acquired in 1981 from the National Post Office had developed over a period of approximately 70 years. In comparison, Mercury has been in business only since 1982. Furthermore, it was not until 1985 that Oftel settled outstanding issues regarding the interconnection of British Telecom's and Mercury's networks; Mercury was finally able to provide public-switched telephone service in 1986. Nevertheless, since 1982 Mercury has established an extensive intercity network throughout England and Scotland. In addition, Mercury has constructed local networks in certain parts of the cities of London, Edinburgh, Manchester and Glasgow which allow customers to be directly connected to the Mercury network. Competition in the U.K. thus encompasses both local and long distance services.

The licence of each carrier specifies its nature and territorial limits. British Telecom's licence obligates it to provide universal telecommunications services throughout the U.K. (other than in the City of Kingston-upon-Hull). These include local, rural and international services sufficient to meet all reasonable subscriber needs. In addition, British Telecom is expected to provide other services such as public pay phones, directory assistance and emergency services.

Mercury's licence, on the other hand, does not require it to provide universal service, but permits it instead to serve areas of the U.K. where it believes it would be economically feasible to do so. Its licence does, however, obligate it to provide long distance service by 1990 to at least 23 designated cities. (It has already met and exceeded this requirement.) Mercury's long distance network is set up in a figure-eight, with the northern circle including Nottingham, Sheffield, Leeds, Manchester and Birmingham with extensions to Edinburgh and Glasgow, and the southern circle including Hemel Hempstead, Milton Keynes, Birmingham, Bristol and London with extensions to Poole, Southampton and Portsmouth. It is now in the process of extending its network to Aberdeen. Mercury's network also includes earth stations in London and Oxfordshire for international links.

Mercury has, in fact, created a network and transmission system that in some respects is more advanced than British Telecom's. Mercury's entire network (local and long distance) is composed of fibre optic cable. Its national network (more than 10,000 route kilometres long)[51] is fully digitalized. In the City of London, over 10,000 route kilometres of local fibre optics have been installed, directly reaching over 1,000 major business buildings in "The Square Mile."[52]

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[51] Fibre cable can be made up of multiple strands. "Route kilometre" measures the length of cable times the number of fibre optic strands it has.

[52] The business district of London.

British Telecom itself has moved aggressively to install fibre optics and digital equipment. As of the end of 1987, approximately 40 per cent of British Telecom's long distance traffic was using fibre optics. British Telecom has also announced plans to install, in 1988, 60,000 route kilometres of fibre optics in the City of London to service the business community. In addition, in its network British Telecom has installed digital trunks in all but one exchange.

In areas of the U.K. where local service competition exists, customers have the choice of connecting directly to the British Telecom network and/or the Mercury network. Subscribers who choose to connect directly to the Mercury network have access to the British Telecom network through interconnection of the two networks. Subscribers in areas where Mercury does not compete on a local basis, but where it has intercity facilities, may gain access to the Mercury network via British Telecom's local network. Such access to the Mercury network is available in over 70 access areas throughout the U.K.; an additional 23 areas were to be added during the winter of 1987-1988.[53] No provision has been made for access to the Mercury network from areas where Mercury does not have local or intercity network facilities. In October 1987, Mercury reported that its service was available to 65 per cent of the U.K. population.[54]

As noted above, in 1985 Oftel determined the terms and conditions of the interconnection agreement between British Telecom and Mercury. In respect of connection charges, Oftel determined that Mercury would be required to pay British Telecom for the direct costs of materials, equipment, apparatus and labour as well as 50 per cent of British Telecom's consequential incremental costs of providing the requested capacity. The agreement also contains provisions for similar connection charges where spare rather than new capacity is utilized, and where additional capacity is required to meet demand. Moreover, Mercury is required to pay British Telecom a quarterly rental equal to the amount British Telecom charges to the generality of its customers for each line provided by British Telecom for a local business line without a telephone set. There is no requirement in the agreement to compensate British Telecom for any lost revenues which would otherwise contribute to service provision by British Telecom.

There is, however, an interesting condition in British Telecom's and Mercury's respective licences which allows each company the discretion to impose an access charge upon any interconnected telecommunications system. The licensee is required to apply the proceeds of such an access charge to defray the costs of special services such as pay telephone services, apparatus for the disabled, directory assistance for the blind or otherwise disabled, special services for the hearing impaired and public emergency call services. Although both British Telecom and Mercury may impose such charges, to date neither company has chosen to do so.

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[53] Mercury Communications Limited, Mercury, Winter 1987/88.

[54] Nick Bundy, "The Rise and Rise of Mercury Communications," Zodiac (a Mercury publication), No.35, 1987.

3.2.6 Carrier Performance Under Competition

Exhibits 3-23 and 3-24 show, respectively, the financial position of British Telecom and Mercury over recent years. British Telecom's total operating revenues increased from approximately £6.4 billion in 1983 to about £10.2 billion in 1988. Despite varying year-to-year performance, British Telecom's net income for this period increased overall by some 44 per cent, reaching approximately £1.5 billion in 1988. Mercury's total operating revenues fluctuated from £0.2 million to £13 million over the 1983-1987 period. Its operating expenses were relatively level for the years 1983, 1984 and to March 31, 1985. Then, in the year ended March 31, 1986 (the year Mercury commenced its competitive long distance service), they tripled to reach £17 million, and in the subsequent year they doubled again to £33.4 million. As a consequence, net operating revenues became increasingly negative. Mercury has, however, achieved a net positive income recently, largely as a result of income tax credits.

Capital expenditures on "Tangible Fixed Assets" have varied considerably between the two companies. For its fiscal years ended March 1983 and 1984, British Telecom's capital expenditures were level, at approximately £1.5 billion. In the following three years, from 1985 to 1987, capital expenditures increased to approximately £1.8, £2.0 and £2.1 billion, respectively.[55] Mercury's capital expenditures for the nine month period ended September 1984 were approximately £1.4 million. In the next three-year period ended March 1987, Mercury's annual capital expenditures rose to approximately £77, £50 and £154 million, respectively, as a result of building its local and long distance networks.[56]

Reliable data were not available to indicate the market share attained by Mercury. Comparison of the above revenue figures suggest that Mercury's market share is still very small. It should be noted, however, that these figures compare gross revenues and not revenues related to long distance. Furthermore, the 1987 results are based on only one year of long distance competition.

Various private surveys have reported statistics regarding the percentage of customers subscribing to both British Telecom and Mercury. In early 1987, a London stock brokerage firm reported that 37 per cent of large business telecommunications subscribers in London were customers of Mercury and that a further 34 per cent were thinking of subscribing.[57] Another study revealed that at the end of 1986 slightly less than 20 per cent of British Telecom's major subscribers in London were also dealing with Mercury; by May 1987 the number

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[55] British Telecommunications plc, Report and Accounts, 1985, p.29; 1986, p.29; and 1987, p.29.

[56] Mercury Communications Ltd., Report and Accounts, 1985, p.9; 1986, p.7; and 1987, p.8.

[57] Datapro Research Corporation, "The United Kingdom," Reports on International Telecommunications - Technologies, Markets, Environments, IT10-050-101, Delran, NJ, May 1987.

EXHIBIT 3-23

Financial Performance of British Telecom

(Current Year £ Millions)

YEAR ENDED 31 MARCH	1983	1984	1985	1986	1987	1988
Total Operating Revenues*	6,414	6,830	7,585	8,317	9,339	10,185
Total Operating Expenses**	4,849	5,299	5,729	6,199	6,990	7,576
Net Operating Revenues	1,565	1,531	1,856	2,118	2,349	2,609
Employee Profit Sharing	--	--	--	18	--	38
Interest Charges	549	544	395	267	282	279
Income Before Income Taxes	1,016	987	1,461	1,833	2,067	2,292
Income Taxes (Credit)	--	--	535	743	754	833
Net Income	1,016	987	926	1,090	1,313	1,459

* Includes revenues from rentals, calls (telephone, telex, etc.), sales and other operating revenue, and overseas operations.

** Comprised of staff costs, depreciation charges, payments to overseas operators and other (system maintenance, marketing, provision of customer lines, accommodation).

SOURCE: British Telecommunications plc, Report and Accounts.

EXHIBIT 3-24

Financial Performance of Mercury

(Current Year £ Millions)

YEAR ENDED	31 DEC. 1983	30 SEPT. 1984	31 MARCH 1985	31 MARCH 1986	31 MARCH 1987
Total Operating Revenues*	4.9	5.3	0.2	3.0	13.0
Total Operating Expenses**	5.1	5.8	5.5	17.0	33.4
Net Operating Revenues	(0.168)	(0.5)	(5.3)	(14.0)	(20.4)
Other Income Items, Net	0.151	0.2	0.1	0.03	0.2
Interest Charges	--	--	(0.2)	1.2	1.5
Income Before Income Taxes	(0.017)	(0.3)	(5.4)	(15.2)	(21.7)
Income Taxes (Credit)	--	--	(11.7)	(18.9)	(24.7)
Net Income (Loss)	(.017)	(.3)	6.3	3.7	3.0

* In 1983, 1984 and 1985, comprised of a management fee from Mercury Joint Venture.

** Includes employee costs, pension costs, other operating costs, depreciation, auditors' renumeration and hire of equipment.

SOURCE: Mercury Communications Limited, Report and Accounts.

of British Telecom customers that also use Mercury's services had risen to 71 per cent.[58]

Initially, Mercury has concentrated its customer expansion efforts on serving business rather than residential customers. It now has about 1,000 commercial subscribers, including the London Stock Exchange, the five largest British banks and 19 of the senior 20 U.S. banks with branch offices in London. Mercury has made negligible inroads into the residential market, having in the order of only several thousand residential customers.[59]

3.2.7 Rate Impacts of Competitive Entry

British Telecom's rates are established on the basis of a price control formula (price cap) which provides that the company's overall average price increases are not to exceed the rate of inflation less 3 per cent, determined retrospectively. In any given year that British Telecom does not increase its prices to the maximum level, it is allowed in the following two years to raise prices in order to make up the shortfall. If the rate of inflation is less than 3 per cent, British Telecom is not required to reduce its overall prices in the current year, but it must do so the following year. Under this regime, in the year ended 31 March 1988 British Telecom earned a 20.7 per cent return on capital employed and, effective August 1989, the 3 per cent adjustment in the price cap formula will be increased to 4.5 per cent.[60] Exhibit 3-25 presents a summary of British Telecom's long distance rate changes from November 1984 to November 1987. During that time, national "a" calls - that is, calls up to 56 km outside of local calling areas - have increased in price in both peak and discounted periods. National "b1" calls (over 56 km and connected over low-cost, high-density routes) and national "b" calls (other calls over 56 km) have generally decreased in price, except in the "cheap" (evening) discount period. The weighted averages of these price changes show overall price increases in 1984 and 1985, and a price decrease in 1986. In November 1987, British Telecom chose to forgo its annual price revision and froze its directly dialled and operator-connected national call charges.

Exhibit 3-26 presents a comparison of British Telecom and Mercury long distance charges for a five-minute call covering distances of less than and greater than 56 km as of November 1987. As noted above, Mercury has set its rates lower than those of British Telecom; Mercury's charges for calls over distances greater than 56 km are from 16 to 28 per cent less expensive than British Telecom's.

As these two exhibits indicate, British Telecom and Mercury both price on a high-density route basis. British Telecom routes that are selected as high-density bear a direct relationship to the population being served. Services along these routes

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[58] Delta Bradstreet, "A Call to Battle," Marketing, 14 May 1987.

[59] Roger S. Turney (footnote 49, supra).

[60] British Telecommunications plc, Supplementary Report, 1988, p.6; and Telecom Highlights International, 20 July 1988, p.10.

EXHIBIT 3-25

Changes in British Telecom Long Distance Call Charges, 1984-1987

(Annual Percentage Change)

RATE TYPE*	NOV. 1984	NOV. 1985	NOV. 1986	NOV. 1987**
National "a":				
Peak+	+6.8%	+6.4%	+1.6%	None
Standard++	+6.8	+18.3	+1.1	None
Cheap+++	+23.1	+6.4	+2.7	None
National "b1":				
Peak	+13.9	-13.9	-12.0	None
Standard	-10.2	-13.7	-12.0	None
Cheap	+6.8	+6.4	-12.0	None
National "b":				
Peak	+14.0	-6.2	-16.0	None
Standard	-13.9	-4.9	-17.0	None
Cheap	+6.8	+6.4	-6.2	None
Weighted Average:	+2.0	+3.7	-0.3	

* National "a" calls cover distances up to 56 km outside of local calling areas; national "b1" calls cover distances over 56 km and connected over low-cost, high-density routes; national "b" calls are other calls covering distances over 56 km.

** Call charges as of November 1987 were unchanged from the previous year.

\+ Peak - 9:00 a.m. to 1:00 p.m., Monday to Friday.

++ Standard - 8:00 a.m. to 9:00 a.m., and 1:00 p.m. to 6:00 p.m., Monday to Friday.

+++ Cheap - All other times.

SOURCE: Oftel, "Review of British Telecom's Tariff Changes, November 1986," Statement, November 1986, p.10.

EXHIBIT 3-26

British Telecom and Mercury Long Distance Call Charges - Nov. 1987*

(5-Minute Call, Price in Pence)

DISTANCE	PEAK RATE			STANDARD RATE			CHEAP RATE		
	BT	MD**	MI+	BT	MD	MI	BT	MD	MI
Calls Less Than 56km	51	45++	48++	38.4	34++	37++	13.2	12++	12.5++
Calls Greater Than 56km	59++	51++	56++	44++	38++	42++	22++	20++	18++

* Prices exclude 15% value-added tax.

** Mercury, direct connection.

\+ Mercury, indirect connection.

++ On high-density routes.

SOURCES: British Telecommunications plc, "Summary of Charges for Telecommunications Services," November 1987; and Mercury Communications Limited, "Public Switched Network Charges," November 1987.

are priced considerably lower than on low-volume traffic routes. In most cases, the same high-density routes are also served by Mercury. British Telecom's licence contains an obligation to serve all routes; Mercury's licence contains no such obligation, and it can therefore choose to provide service only in areas where it believes it would be economically feasible to do so (i.e., on high-density routes).

In the past several years, British Telecom's local rates have been increasing significantly. This is illustrated in Exhibit 3-27 which shows measured local rate changes in the period 1984-1987. In 1984, 1985 and 1986, the price of a local call increased in all three rate periods (peak, standard and cheap), except in 1986 for the "cheap" period. In early 1986, Mercury began providing its first local service in the City of London, primarily to business customers. Mercury established charges that were uniformly lower than British Telecom's. For example, its peak rate charge for the minimum period call (0-60 seconds) was 3 pence, whereas British Telecom's was 5 pence. In March 1986, however, British Telecom reduced its charge to 4.4 pence, narrowing the gap slightly.

Within the context of its price control formula, British Telecom has been rebalancing rates. Generally, as indicated above, long distance rates in the U.K. have declined and local rates have increased. Oftel's assessment, as of March 1986, is that "local call charges and national call charges are almost in balance."[61] Rebalancing has occurred for two reasons: first, technological improvements have reduced the actual costs of providing long distance services to a much greater extent than in the case of local services; second, an imbalance had been allowed to develop during the time when British Telecom was state-owned and it was thought that revenues from long distance calls should subsidize local exchange line rental charges.

3.3 Competition in Public Long-Distance Telephone Service in Japan

This section outlines available evidence regarding the development of competition in long distance telephone service in Japan. Much of the research work was conducted by staff members assigned to the Task Force. Additional information was obtained through communications with Professor H.N. Janisch, Faculty of Law, University of Toronto.

3.3.1 Changes to the Monopoly Structure

In 1952, the Japanese government decided on the following structure for the telecommunications industry:

(1) Responsibility for communications policy was assigned to the Ministry of Posts and Telecommunications.

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[61] Oftel, "Review of British Telecom's Tariff Changes, November 1986," A report issued by the Director General of Telecommunications, Statement, November 1986, para. 112.

EXHIBIT 3-27

Summary of British Telecom Local Price Changes, 1984-1987*

(Annual Percentage Change)

RATE RATE PERIOD	NOV. 1984	NOV. 1985	NOV. 1986	NOV. 1987
Peak	+6.8%	+6.4%	+18.9%	None
Standard	+6.8	+6.4	+6.4	None
Cheap	+6.8	+6.4	-3.6	None

* Measured service. See Exhibit 3-25 for an explanation of peak, standard and cheap periods. Not included are monthly access line and telephone set rental charges.

SOURCE: Oftel, "Review of British Telecom's Tariff Charges, November 1986," Statement, November 1986.

(2) Nippon Telegraph and Telephone Public Corporation (NTT) was established as a public corporation to be the sole provider of domestic telecommunications.

(3) Kokusai Denshin Denwa Company, Limited (KDD), a government regulated monopoly, was given responsibility for international telecommunications activities. (NTT was given 10 per cent equity in KDD.)

On April 1, 1985, the Japanese ended this monopoly structure with the implementation of three telecommunications reform laws. The first was the Telecommunications Business Law which created a competitive industry structure in Japan. The second was the NTT Corporation Law which reorganized NTT into a new, private company. The third abolished or modified associated laws.

The decision to liberalize competition was not a sudden event in the development of Japan's telecommunications system. Prior to 1985 the sale of customer equipment, other than the basic telephone set for each subscriber line, had been liberalized and the public telephone network had been opened for use for data communications competition. The 1970s and early 1980s had been years of rapid telecommunications growth. Customers had begun to demand increasingly advanced and diversified services which offered a combination of telecommunications and information functions.

A report published by NTT prior to passage of the laws referred to earlier indicates some of the reasons for moving from a monopoly to a competitive industry structure.[62] By the early 1980s, NTT felt that it had achieved two key objectives: elimination of the backlog of unfilled telephone service orders and completion of a nation-wide direct dialling system. The report stated that as a result of recent developments in fibre optics, communications satellites and interface technologies, natural monopolistic characteristics had become less pronounced. NTT further considered that competition in the telecommunications industry would have "no serious adverse effect." The report went on to argue that:

> Given these changes and the fact that monopolies have certain built-in disadvantages, such as the tendency to become self-righteous, the time is ripe for a transition to a non-monopolistic system.[63]

In response to concerns that competitors would enter the lucrative high-density markets only and that business customers would migrate to the new entrants, with serious adverse financial impact on the new NTT, the company itself considered that it must compete effectively. The new NTT perceived that it would have to make every effort to become more responsive to business opportunities and to

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[62] Nippon Telegraph and Telephone Public Corporation (NTT), "Telecommunications Reform and NTT Privatization," NTT Publication G-115, February 1985.

[63] Ibid., p.2.

customer needs. For example, it was considered necessary to modify NTT's tariff structure, taking into account demand trends and its financial position.[64]

3.3.2 The New Industry Structure

The overall framework of the Telecommunications Business Law is presented in Exhibit 3-28. The new legislation divides telecommunications carriers into two categories, Type I and Type II:

- Type I carriers provide telecommunications services through their own circuit facilities.

- Type II carriers provide telecommunications services by acquiring telecommunications circuit facilities from Type I carriers.

Type II carriers are subdivided into two categories: Special Type II carriers with large scale nation-wide operations or which provide services between Japan and foreign points; and General Type II carriers (other than Special Type II carriers).

Entry and tariff controls vary with the type of carrier. Type I carriers must seek permission from the Ministry of Posts and Telecommunications to construct telecommunications facilities. Special Type II carriers must register with the Ministry, whereas General Type II carriers are required only to notify the Ministry of their intent to provide service. Control of tariffs likewise varies from authorization for Type I carriers to notification for Special Type II carriers to no regulation for General Type II carriers.

In regard to foreign ownership, the legislation stipulates that less than one-third of the shares of a Type I carrier may be held by foreigners, with the exception that none of the shares of NTT and KDD may be foreign owned. In contrast, no restrictions on foreign ownership of Type II carriers are included in the legislation.

As noted above, coincident with the coming into effect of the Telecommunications Business Law, the NTT Corporation Law converted NTT into a private corporation. The government's stated intention was to sell its ownership in stages, beginning with one-eighth of its holdings in late 1986. The government indicated, however, that it would retain at least one-third of NTT's stock.

With the liberalization of the telecommunications industry and privatization of NTT, Japan began to move towards a competitive marketplace. However, it should be noted that NTT is the only carrier that is legally required to provide universal telephone service - rural and local area services - in all parts of the country. Briefly stated, the regulatory environment in the aftermath of the new laws governing Japanese telecommunications can best be described as regulated competition, with restricted market entry for facilities-based carriers and largely unrestricted, unregulated competition by resale carriers.

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[64] Ibid.

EXHIBIT 3-28

Framework of the Telecommunications Business Law

CLASSIFICATION		TYPE OF BUSINESS		ENTRY PROCEDURE	TARIFF	FOREIGN OWNERSHIP
Type I Telecommunications Business		Provision of telecommunications service by establishing carrier's own telecommunications circuit facilities		Permission	Authorization	Less than 1/3 but none for NTT and KDD
Type II Telecommunications Business	Special Type II	Provision of telecommunications service by acquiring telecommunications circuit facilities from Type I telecommunications carriers	Type II telecommunications business over a certain scale for an unspecified large number of users, and Type II telecommunications business between Japan and foreign points	Registration	Notification	No regulation
	General Type II		Type II telecommunications business other than Special Type II telecommunications business	Notification	No regulation	

SOURCE: Yasuo Koseki (KDD), "Development of Japan's Telecommunications Business Law", PTC Quarterly, Vol.8, No.2/3, October 1987, Table 1.

3.3.3 The Nature and Extent of Entry

3.3.3.1 Type I Carriers

At the end of 1987 there were 31 licensed Type I carriers in Japan. Of these, 18 were radio paging companies. The remaining 13 comprised NTT, KDD, three relay carriers, four regional carriers, two satellite carriers and two international carriers. The specific companies involved are presented in Exhibit 3-29. The exhibit also shows the date on which permission to construct telecommunications facilities was received from the Ministry of Posts and Telecommunications, the services offered and the actual or expected date of operation for various service categories.

NTT provides a full range of telecommunications services. Since privatization, it has rationalized its operations and is now composed of 17 profit centres, including a Telecommunications Network Sector, a Customer Equipment Division, a Telecommunications Directory Division, an Advanced Telecommunications Services Sector, a Data Communications Sector and 11 Telephone Services Regions.[65]

The three new relay carriers are Daini Denden Inc. (DDI), Japan Telecom Co. and Teleway Japan Corp. Daini Denden (literally translated, "Number Two Telephone Company") started offering leased line services in October 1986 using its microwave system on the Tokyo-Nagoya-Osaka corridor. Its services include general leased line and high-speed digital transmission services. Telephone services were added in September 1987 in 12 metropolitan areas. Japan Telecom started offering leased line services in August 1986 using fibre optic cable along the Tokaido Bullet Train Route. Currently, the company's leased line services are available in 11 metropolitan areas, including Tokyo, Osaka and Kyoto. The services provided are somewhat broader than those of DDI and include video transmission. Telephone services were started in September 1987 in 19 metropolitan areas adjacent to the Tokaido Bullet Train Route. Teleway Japan also employs fibre optics, but has located its facilities along two major national expressways. Service is currently offered in 10 metropolitan areas and includes analogue, digital, high-speed digital and video transmission circuits. Telephone service was started in September 1987 in 15 metropolitan areas along the two expressways.

Of the regional carriers, Tokyo Telecommunications Network Co., Inc. (TTNet) provides leased circuit services using fibre optics and other facilities in Tokyo and a number of other metropolitan areas. Its services include analogue and high-speed digital transmission, with telephone service planned to start in May 1988 in the Kanto region. Osaka Media Port Corp. (OMP) started providing leased circuit services using fibre optics and other facilities in Osaka City and nine surrounding cities in March 1987. Its services include general leased circuits, high-speed digital and video transmission. Lake City Cablevision (LCV) initiated leased

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[65] With AT&T's divestiture, NTT became the world's largest telephone company. As of 1986, it had operating revenues of $28.3 billion, assets of $63 billion and over 300,000 employees. See NTT, Annual Report 1986.

EXHIBIT 3-29

New Type I Carriers

COMPANY NAME	DATE OF PERMISSION	SERVICES OFFERED	START OF OPERATION
1. Relay Carriers			
Daini Denden Inc.	85/6/21	LD telephone & leased services	86/10/24 (Leased services) 87/9/4 (LD telephone services)
Japan Telecom Co.	85/6/21	LD telephone & leased services	86/8/1 (Leased services) 87/9/4 (LD telephone services)
Teleway Japan Corp.	85/6/21	LD telephone & leased services	86/11/11 (Leased services) 87/9/4 (LD telephone services)
2. Regional Carriers			
Tokyo Telecommunications Network Co., Inc.	86/8/8	Telephone and leased services	86/11/1 (Leased services)
Lake City Cablevision	86/12/12	Leased services	87/10/1 (Leased services)
Osaka Media Port Corp.	86/12/12	Leased services	87/3/1 (Leased services)
Chubu Telecommunications Co.	87/12/21	Leased services	88/6/1 (Leased services)
3. Satellite Carriers			
Japan Communications Satellite Co.	85/6/21	Leased services	89 (Leased services)
Space Communications Corp.	85/6/21	Leased services	89 (Leased services)
4. International Telecom Carriers			
International Telecom Japan, Inc.	87/11/30	International telephone & leased services	89/4 (Leased services) 90/2 (Telephone services)
International Digital Communications Inc.	87/11/30	International telephone & leased services	89/5 (Leased services) 89/10 (Telephone services)

SOURCE: New Era in Telecommunications in Japan, No.55, 1 January 1988.

circuit services in Suwa City and surrounding municipalities in October 1987. In the Chubu area, Chubu Telecommunications Co., a subsidiary of Chubu Electric Power Co., planned to offer leased services in June 1988.

Neither of the two authorized satellite carriers currently provides service. (Their plans have been substantially delayed by the U.S. shuttle disaster.) Japan Communications Satellite Co. (JCSAT) proposes to use two satellites to cover most of Japan. The company expects to start service in 1989. Space Communications Corp. (SCC) also plans to use two satellites to cover most of Japan. It also plans to start service during 1989.

In international telecommunications, KDD continues to provide a full range of telecommunications services. Like NTT, KDD has undertaken substantial reorganization in anticipation of competition. Much greater emphasis has been placed on marketing with a new Marketing and Sales Headquarters along with a new Office of Corporate Strategy and Planning. International Telecom Japan Inc. (ITJ) plans to start telephone and leased circuit services between Japan and nine other countries, primarily through INTELSAT and the TransPacific Cable No.3 (TPC-3). It plans to start telephone services in 1990 after initiating leased circuit services in 1989. International Digital Communications Planning Inc. (IDC) has similar plans, although it will include additional countries. It plans to start telephone service in October 1989, after introducing leased circuit services earlier that year.

While it appears that the initial rush of New Common Carriers in Japan is over, there may well be additional new regional carriers.[66] Regional electric power companies, in particular, have shown interest in providing telecommunications services.[67]

3.3.3.2 Type II Carriers

As of November 1987, there were 17 Special Type II Telecommunications carriers and 452 General Type II carriers. A listing of the Special Type II carriers is contained in Exhibit 3-30. The types of services offered by Special Type II carriers are primarily nation-wide packet switching or data transmission, domestic circuit resale and switched telephone service using leased networks. Many of these carriers are Value Added Network (VAN) operators - that is, they add value to the basic transmission facilities that have been leased from Type I carriers. Partial revision of the Telecommunications Business Law on September 1, 1987 enabled Special Type II carriers to engage in international VAN operations.

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[66] In addition, Railway Communications Co. was established by joint investment from each of the railway companies (which have replaced Japan National Railway), and it has taken over the basic telecommunications network previously constructed by JNR. See "Telecommunications in Review: 1987 Highlights," New Era in Telecommunications in Japan, No.55, 1 January 1988. (This article is based on information provided by the Telecommunications Bureau of the Ministry of Posts and Telecommunications.)

[67] Ibid., p.5.

EXHIBIT 3-30

Special Type II Carriers*

COMPANY	LOCATION	SERVICES OFFERED	SERVICE AREA	DATE OF REGISTRATION
INTEC Inc.	Toyama	Voice Video Data	Nation-wide	85/4/19
Fujitsu Ltd.	Kawasaki	Data	Nation-wide	85/4/19
Japan Information Service, Ltd.**	Osaka	Data	Nation-wide U.S.	85/4/19
NEC Corporation**	Tokyo	Voice Video ntegrated Services	Nation-wide U.S.	85/4/19
Hitachi Information Network Ltd.**	Tokyo	Data	Nation-wide U.S.	85/4/19
United Net Corp.	Tokyo	Voice Video Data ntegrated Services	Nation-wide	85/5/24
Japan ENS Corporation**	Tokyo	Data Voice	Nation-wide U.S.	85/7/17
OKI Network Service	Tokyo	Voice Video Data	Nation-wide	85/7/31
Network Information Service Co., Ltd.**	Tokyo	Voice Video Data	Nation-wide U.S.	85/11/25
Internetwork Inc.	Tokyo	Data	Nation-wide	86/10/15
Nippon Information and Communications Corp.	Tokyo	Voice Video Data	Nation-wide U.S.	87/7/20
Japan Global VAN Inc.*	Tokyo	Video Data	Nation-wide U.S.	87/9/29
Nomura Computer Systems Co.**	Tokyo	Data	Nation-wide U.S.	87/10/9
Mitsui Knowledge Industry Co.**	Tokyo	Data	Nation-wide U.S.	87/10/19
IBM Japan**	Tokyo	Data	Nation-wide U.S.	87/10/27
Nihon Keizai Shimbun Inc.**	Tokyo	Video Data	Nation-wide U.S.	87/10/31
Toyo Information Systems Co.	Osaka	Data	Nation-wide	87/11/27

* As of 30 November 1987.

** Indicates registration as an international Value Added Network operator.

SOURCE: New Era in Telecommunications in Japan, No.55, 1 January 1988.

Exhibit 3-30 indicates the carriers that have registered as international VAN operators. On December 18, 1987 two of these companies - NEC Corporation and Network Information Service Co., Ltd. - started providing international VAN services. As of January 1, 1988, the eight other companies were preparing to start operations. At that time, agreement to provide international VAN services had been reached with the United States and discussions were underway with the United Kingdom. Japan plans to seek such agreements with many other countries.

Exhibit 3-31 provides a geographical breakdown of the 452 General Type II carriers. They are spread throughout Japan, although almost half of them are located in or near Tokyo. The types of services offered by these carriers are outlined in Exhibit 3-32. Approximately 60 per cent of these companies provide data transmission services and most provide integrated VAN services that combine VAN services with data processing. Voice transmission services provided by General Type II carriers consist primarily of voice mail or leased line services, so that they are not significant competitors in the switched long-distance services market. Video transmission services offered by these carriers consist primarily of facsimile and videotex.

3.3.4 Impacts of Competition on Rates

Prior to the introduction of competition in Japan, the rate structure of NTT was characterized by wide price differentials between local and long distance services. Economists Nambu, Suzuki and Honda, writing in 1987, suggest the existence of cross-subsidy from long distance to local service. They state:

> The price of long distance service was reduced about 40 per cent from 1977 to 1984, but the price level is considered to be still far above average cost. On the other hand, the basic fee and the price of local calls are considered to be far below average cost.
>
> NTT's total revenues reached 4,750 billion yen in 1984. Revenue from telephone calls, basic fees, and private line service were 2,500 billion, 990 billion and 380 billion yen respectively. Revenues from long distance calls contribute more than 76 per cent of total revenues from telephone calls. On the other hand, volume of long distance calls is only about 27 per cent of the total volume of calls.
>
> These facts suggest the existence of a cross-subsidy between local and long distance services. Revenues from basic fees and local calls contribute only 33 per cent of total revenues in 1984 whereas the same ratio for AT&T before divestiture was around 42 per cent.[68]

They also state that NTT is very vulnerable to competition because of the large percentage of revenues generated by a small number of customers. Specifically,

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[68] Tsuruhiko Nambu, Kazuyyki Suzuki and Tetsushi Honda, "Competition and Government Policy in the Japanese Telecommunications Industry," Mimeograph, 1 May 1987, pp.15-16.

EXHIBIT 3-31

Geographical Breakdown of General Type II Carriers - By Main Office Location*

REGION	NUMBER OF COMPANIES	REGION	NUMBER OF COMPANIES
Hokkaido	29	Kinki (Osaka)	66 (54)
Tohoku	21	Chugoku	26
Kanto (Tokyo)	197 (168)	Shikoku	12
Shinetsu	17	Kyushu	28
Tokai	38	Okinawa	3
Hokuriku	15	TOTAL	452

EXHIBIT 3-32

Services Provided By General Type II Carriers*

SERVICES	COMPANIES
Voice transmission	112
Video transmission	71
Data transmission	342
Integrated services	60

* As of 30 November 1987.

SOURCE: New Era in Telecommunications in Japan, No.55, 1 January 1988.

30 per cent of NTT's revenues come from 5 per cent of total subscribers, and 56 per cent of revenues come from 12 per cent of total subscribers, such that NTT could be substantially affected by a shift of only a few (large) customers to the competitors. In spite of this, NTT has declined to charge the new carriers an access fee to make up for any loss of contribution to local service. Charges for accessing the local switched network of NTT have been set on the basis of direct costs alone.

Behind the competitive movement in Japan are the following factors: the development of a highly technologically advanced telecommunications system; support by the Japanese generally to move towards an "informationized" society; a commitment to universal telephone service; and phenomenal growth in telephone calling. The total number of telephone calls dialled in Japan in 1986 was estimated at 71.8 billion, an increase of 13.6 per cent over 1985. A total of approximately 135 million international long distance calls were made in 1987, an increase of 70 per cent over 1986.[69] The Japanese approach to competition is predicated on the belief that competitors will provide more versatile services and enlarge the domestic telecommunications market so that all will grow together.[70] NTT itself subscribes to this "expanding pie" scenario:

> The rapid emergence of new competitors has occurred precisely because of the many attractive business prospects that exist in the telecommunications field, now and especially in the future. For NTT, the overall expansion of the market will provide us greater scope to make optimal use of our corporate capabilities. By aggressively seizing opportunities, we fully expect to maintain our position of prominence in the Japanese telecommunications industry.[71]

It has been estimated that new entrants could come in with much lower rates than NTT. For instance, one U.S. commentator has concluded as follows:

> A 15-minute call between Tokyo and Osaka, at the lowest off peak rate, currently costs about 2000 yen ... Independent firms believe that they could profitably sell the same service for 400 yen.[72]

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[69] "Communications in Japan," New Era in Telecommunications in Japan, No.56, 15 January 1988, pp.1-2. For an indication of the kind of growth rates associated with the introduction of competition, consider the increase in leased-line service sales in 1987 (from 6.7 to 9.5 per cent). Also, No.57, 1 February 1988, p.3.

[70] Larry Lannon, "NTT Jostles Through a Tough Period," Telephony, 22 February 1988, p.35.

[71] NTT, Annual Report 1986, p.5.

[72] William H. Davidson, "Japanese Telecommunications Policy, New Directions and Old Dilemmas," Telecommunications Policy, June 1987, p.156.

In practice, as Yusai Okuyama, Director-General of Telecommunications at the Ministry of Posts and Telecommunications, notes, the rate war has been much more sedate:

> When we look at recent moves by service firms, we see that communications costs are generally declining. The three new common carriers ... offer rates that are on average 20% lower than NTT's. NTT, meanwhile, in August of 1987 came up with a 10% reduction in its rate for leased-line service to compete with the three new carriers.[73]

Moreover, NTT has indicated that if telephone charges levied by the new carriers are within 20 per cent of those of NTT, then NTT will not levy carrier access charges.[74]

While it is realized in Japan that there are a number of issues to be dealt with, such as NTT rate rebalancing, access charges and predatory pricing, it is not considered that these issues need to be resolved in advance of changes deemed necessary to stimulate the telecommunications market. Instead, it is generally considered that regulated competition, as described earlier, is still better than monopoly. While precise market share figures are not yet available, there is little to indicate any apparent alarm due to adverse effects. Hence, the thrust to date has been to continue to compete under the current industry structure rather than make any major policy changes.

3.4 European Policies and Activities Relating to Telecommunications Competition

A short overview of continental Western European policies and activities regarding telecommunications competition is provided in this section. While not included as a requirement of the Terms of Reference of the Task Force, it was felt that a description of the European approach would be useful to Ministers.

3.4.1 The Traditional Industry Structure

Europe's telecommunications services industry historically has been comprised of regulated state-owned monopolies, generically referred to as Post, Telephone and Telegraph (PTT) administrations. In most European countries, the PTTs assume responsibility for self-regulation and determination of national telecommunications policy; have a monopoly on most kinds of customer premises equipment; operate services; favour national industries in the area of equipment procu-

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[73] "Results of Liberalization and Future Problems in Japan," New Era in Telecommunications in Japan, Vol.57, 1 February 1988, p.3.

[74] "NTT Not Intending To Levy Access Charges on NCC's At Present," New Era in Telecommunications in Japan, No.41, 1 June 1987, p.8. Announcing this policy, Dr. Shinto, then president of NTT, indicated, "...if the telephone charges levied by the new carriers is (sic) within reason such as about 20 per cent less than NTT's charges, then NTT won't levy access charges against them."

rement; and generally preclude subscribers from building their own transmission facilities, and prevent them from either interconnecting their leased lines to the public network or sharing leased lines.

3.4.2 Pressures For and Against Competition

Today, European PTTs are diverging in terms of their responses to pressures for change. They are either in an early stage of contemplating change or they are in a state of flux, seeking to strengthen the PTT monopoly or experimenting with a degree of liberalization. Europe is currently observing and evaluating competitive and deregulatory trends in Japan, the United Kingdom and the United States. Political, industrial and economic issues are being addressed in a number of countries, and telecommunications policy changes are being proposed. For example, some subscriber groups are exerting increasing pressure on European governments and their telecommunications administrations for a harmonious pan-European communications infrastructure, a single European telecommunications market, increased competition in services other than public-switched voice service, interconnection of private circuits with public networks, competitive value added services, non-discriminatory tariffs, unrestricted competitive provision of terminal equipment, and the separation of administrations' regulatory and operational activities.

European nations are currently considering recommendations proposed by the Commission of European Communities (CEC) in its Green Paper of June 1987.[75] The CEC acknowledges that technological advances are blurring distinctions between the communications and computer sectors and that satellite technology is eroding service distinctions between domestic and international services, thereby creating public and private business opportunities. In response, it has urged Member States to embrace freer competition and liberalize the supply of most terminal equipment, value added services and some satellite communications. The CEC further urges Member States to review domestic telecommunications regulation in recognition that this is the era of convergence of state monopoly-dominated telecommunications and the competitively developed computer sector.

While several western European nations are assessing the implications and impacts of reregulating their PTT monopolies, improving operations and allowing limited competition in specific areas, their moves have been cautious and slow, and evidence of resistance to change abounds. A widely shared view among European PTTs is that European countries lack the geographic size, population and economic resources necessary to support more competitive provision of service. There is no move afoot in western European nations to remove telecommunications administrations' traditional monopoly in voice telephony. Another prevalent attitude is that only a monopoly PTT can support national telecommunications equipment manufacturers and keep a country more technologically current by spending more on research and development than would be the case in a competi-

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[75] Commission of European Communities (CEC), "Green Paper on the Development of the Common Market for Telecommunications Services and Equipment," COM (87) 290, Summary Report, June 1987.

tive marketplace. Retention of the PTT monopoly has also found support among those who believe that only a monopoly network controlled by the PTT can realize the potential cost savings and quality improvements required in the digital era.

3.5 Summary of the Foreign Experience

The United States, the United Kingdom and Japan have adopted different approaches to the implementation of competition in public long-distance telephone service. The key elements of the U.S. approach include the establishment of Local Access and Transport Areas (LATAs) and the development by the FCC of its Access Charge Plan. A LATA is defined as an area generally encompassing a major population centre (in some cases an entire state) within which telephone companies can operate on a monopoly basis for the provision of local and intraLATA long distance services. (Some states have recently begun to allow intraLATA competition.) Local telephone companies are obligated to provide authorized long distance carriers with access to customers, such that they are able to offer services throughout the LATA. The FCC's Access Charge Plan and similar plans developed by some state regulators are designed to ensure that local telephone companies will be compensated for their obligation to provide interconnection to competitive long distance carriers, and that there will be a continuing flow of funds to support the provision of basic telephone service. Hence, the U.S. approach tries to insulate the telephone companies from some of the possible effects of competition while making competitive services widely available throughout the country. In the U.S., regulators have for the most part chosen to regulate only AT&T and the local telephone companies in the traditional rate-of-return manner; other carriers are generally free to enter and exit the long distance market.

The United Kingdom has adopted another approach. It has permitted only one company, Mercury Communications Ltd., to compete with the now-privatized British Telecom. In contrast to the U.S., the competitor is allowed to provide both local and long distance services. Furthermore, while British Telecom is required to provide service throughout the U.K., Mercury has no such obligation and, as a consequence, it has to date offered services in the more populated areas only. Thus, although a large percentage of the U.K. population can avail itself of Mercury's lower priced competitive services, they are not generally available in rural and remote areas. Additionally, the U.K. has not required Mercury to make contribution payments in support of the provision of local telephone service.

Japan has adopted a third approach. It has divided its telecommunications industry into two categories: facilities-based carriers which construct and operate their own facilities, and resale carriers which lease facilities from facilities-based carriers. It has also privatized its previously monopoly providers of domestic and international telephone services.

In Japan, entry and the provision of service by facilities-based carriers is regulated, whereas resale carriers operate virtually free from regulation. Relatively large numbers of new carriers have entered the Japanese telecommunications marketplace. Despite an apparent large cross-subsidy from long distance to local service, the Japanese government has not required new

entrants to compensate NTT (the previous monopoly supplier of domestic service) for any lost contribution to local service. Telecommunications traffic has been growing rapidly in Japan, and it is apparently felt by policy makers and the industry that there is room for all companies to grow without resorting to compensatory mechanisms.

European authorities, in contrast, while adopting competition in some telecommunications areas, have not allowed it in the provision of public long-distance telephone service. A continued monopoly structure is generally seen as the preferred means of providing all types of telephone service.

4.0 COMPETITION OR MONOPOLY – THE OVERALL FACTORS AFFECTING THE CHOICE

The purpose of this chapter is to review the various technical, operational and economic factors that may justify the provision of public long-distance telephone service on a monopoly versus a competitive basis. The chapter contains four sections dealing with: technical and operational aspects of providing service in a competitive environment; cost impacts of competition; price elasticity of demand; and the macroeconomic impacts of competition. The intent of this chapter is to provide a review of available information of a general nature pertaining to the "monopoly versus competition" issue before presenting a more detailed discussion in subsequent chapters of the introduction of competition in the Canadian environment.

4.1 Technical and Operational Aspects

4.1.1 Technical and Service Innovation

An issue for policy makers is whether technical and service innovation in the telephone industry would be stimulated more in a competitive environment than in a monopoly environment. What, for example, is the available information regarding network development, service provision, and research and development where competition has been introduced? What role does technological change play in the monopoly versus competition issue? As shall be noted, opinions are divided as to whether innovation and the benefits of technological change may be better achieved under a competitive as opposed to a monopoly industry structure.

In recent years, the telephone industry has experienced significant technological change, particularly the convergence of telecommunications and computer technologies. New transmission and switching technologies such as fibre optics, software controlled switching, digital switching and digital transmission, etc. have been used to upgrade much of the long distance network throughout Canada. Telephone companies have adopted new and improved technologies to enhance the performance of the network and offer new services to customers. The result for the industry has been significant productivity gains and reduced real unit costs.

Canadian telephone companies appear to have kept pace with international technological developments, and they have built one of the most modern and functionally efficient telecommunications networks in the world. An important question facing Canadian policy makers is whether a continued monopoly over MTS/WATS would best foster future technical and service innovation or, alternatively, whether competition would accelerate such innovation and result in improved services to the public in general.

Closer examination of the U.S. experience provides useful insights on these issues. In order to assess these and related issues, the Task Force commissioned a study entitled "A Study of Selected Impacts of Competition in the U.S. Long Distance Telephone Industry." The study was conducted by Economics and Technology, Inc., Boston, Massachusetts.

From a network development perspective, the consultant's report indicates that two separate but related developments have occurred in that country. First, since competition has been largely an interLATA phenomenon, competitors have generally concentrated on building regional and nation-wide interLATA networks linking major population centres. Secondly, as a result of deliberate regulatory action, both the introduction of long distance competition and the substantial reductions in long distance rates appear to have had little, if any, effect on the financial well-being of the local telephone companies. This has resulted from the fact that when competition was introduced at the interstate level, long distance revenues previously allocated to the local telephone companies under the jurisdictional separations and division of revenues processes continued to be allocated to the local telephone companies through the interstate carrier access charge mechanism. As a consequence, there were no sudden financial shocks affecting the ability of local companies to build and improve their networks. Rather, competition and the requirement to provide equal access have served to accelerate the implementation of digital switching and other new technologies, whether or not such implementation was actually economically justified for local service provision. It appears that many local telephone companies may have accelerated the upgrading of their networks coincident with the obligation to provide equal access (a requirement of the MFJ). This resulted in improvements in local network service quality, but with associated increases in capital and depreciation costs applied to local rate requirements.

The Economics and Technology report also indicates that competition has resulted in numerous (perhaps as many as 60) different service "packages." They differ from each other primarily with respect to pricing and not with respect to service capabilities. A clear goal of the U.S. long distance carriers has been to structure their service offerings in such a way as to segment the market along dimensions of customer size, degree of competitive choice and price elasticity of demand characteristics. The report indicates the following as among the more salient features of the pricing and service innovations that have occurred since divestiture:

(1) The availability of certain dedicated and switched network services has expanded as the networks of new entrants have increased in the extent of their geographical coverage.

(2) Carriers have diversified their array of offerings, providing many new pricing and service configuration alternatives to the more traditional per-call (MTS) and cumulative time (WATS) types of billing arrangements.

The consultant's report further states that a realignment is currently taking place respecting the attractiveness of digital and network services. There is a growing availability of T-1 digital services and emergence of virtual private networks. These reflect both real technological progress, the extent of which may or may not have been affected by long distance competition and carriers' strategic market planning. Declining transmission costs associated with fibre optics, and the introduction of enhanced software features and functions in central offices, have also dramatically expanded the types of services that the major carriers are now able to offer.

The Task Force was unable to locate conclusive information indicating what impact MTS/WATS competition has had on telecommunications research and development in the United States. On the one hand, there is some concern that lessened co-ordination among carriers and the reluctance to share strategic information could impede the development and implementation of new systems and new standards. This situation is complicated by the fact that divestiture has had the effect of significantly changing the manner in which research and development is conducted. There is also concern that competing carriers may be more likely to aim for short-run payoffs, avoiding longer term development projects. On the other hand, some observers suggest that competition will stimulate research and development by providing clear market incentives to carriers to be the first to develop new systems and improve performance. While major technological improvements have occurred over the last decade in the U.S. and will likely continue, it is difficult to determine whether or not competition has had any impact on the extent of these improvements.

4.1.2 Responsiveness to User Needs

Competition, in general terms, is considered by professional economists and others as a means to ensure responsiveness to subscriber needs. Competitors are motivated to provide products and services at acceptable prices and quality either to maintain existing market share or to gain greater market share.

Under a monopoly system, the long distance carrier is required to derive revenues from total calling within the system. Price discounts, for example, are designed to stimulate traffic without siphoning traffic away from higher margin services. In a competitive environment, however, each carrier is motivated to maximize net revenues by pricing services in such a way as to attract traffic away from other carriers as well as stimulate network use.

As noted in the previous section, one result of MTS/WATS competition in the U.S. has been the introduction of a wide range of pricing packages. Some customers are therefore much more likely to find attractive pricing packages to meet their specific needs. Services such as "Software Designed Network" and "Megacom" (a bulk WATS-type service that requires a dedicated T-1 digital access facility) have been specifically designed to appeal to major (business) customers. At the other end of the spectrum, pricing packages have been designed to attract smaller businesses and residential subscribers whose long distance usage is not large enough to warrant subscription to a WATS-type service, but who collectively represent a significant source of carrier revenues. AT&T entered the latter market by introducing "Pro-America" pricing packages. MCI entered in 1986 with its "Prism I, II and III" services, and US Sprint (then GTE Sprint) entered with "Advanced WATS 2" and, later, "Dial 1 WATS." In 1987, MCI added a new service called "Prism Plus," and US Sprint created "Advanced WATS Plus." The aggregate effect of these new offerings has been to create a range of both private line and switched network services more closely paralleling customer requirements and pricing expectations than previously.

The experience has not been entirely positive. The Economics and Technology report indicates that the new U.S. telephone industry structure has created

additional confusion and complexity.[76] For example, billing arrangements are more complex: long distance billing may be provided by the local telephone company, the presubscribed carrier or alternative carriers. Few customers are aware of the distinctions and opportunities this offers. In addition, for business customers, competition in private line services and fragmentation of that market have introduced complexities which could result in delays in service ordering, billing errors and confusion concerning tariff structures.

User responsiveness measured in terms of service quality has also changed over time. When competition was first introduced, carriers other than AT&T did not have high-quality access to local exchanges. As a result, their customers often complained of problems related to repeated dialling to complete calls, billing and signal quality. With the availability of equal access in the aftermath of the MFJ, differences between carriers effectively disappeared and consumers' concerns abated. Surveys of business customers, those most sensitive to service quality problems, now show little perceived difference among the various long distance carriers, although AT&T's services tend to score somewhat higher than those of its competitors. Unfortunately, no information was available to the Task Force as to how, if at all, AT&T's quality of service changed following the introduction of MTS/WATS competition.

Furthermore, since the introduction of equal access, the margin between AT&T and its competitors' interstate long distance rates has narrowed considerably. Competitors are consequently forced to rely on other aspects of service differentiation to retain or gain market share.

4.2 Cost Impacts of Competition on the Industry

4.2.1 Economies of Scale and Scope

This section addresses available information concerning economies of scale and scope in the provision of public long-distance telephone service in Canada. This topic is of particular importance when considering competitive entry into the long distance market since the presence or otherwise of economies of scale and/or scope could have an impact on the survival and profitability of new entrants.

4.2.1.1 Definition of Economies of Scale and Scope

Economies of scale exist if an increase in the level of production is accompanied by a less than proportional increase in total costs. Stated differently, the Long Run Average Costs fall continuously over the range of industry output and are not exhausted by total market sales. This is shown graphically in Exhibit 4-1. Economies of scale may exist at the "plant" level or at the "firm" level. Plant level economies of scale are realized from the technical relationships embodied in the production process, such as proportional requirements of capital, labour, materials, etc. associated with a given manner of production. Economies of scale

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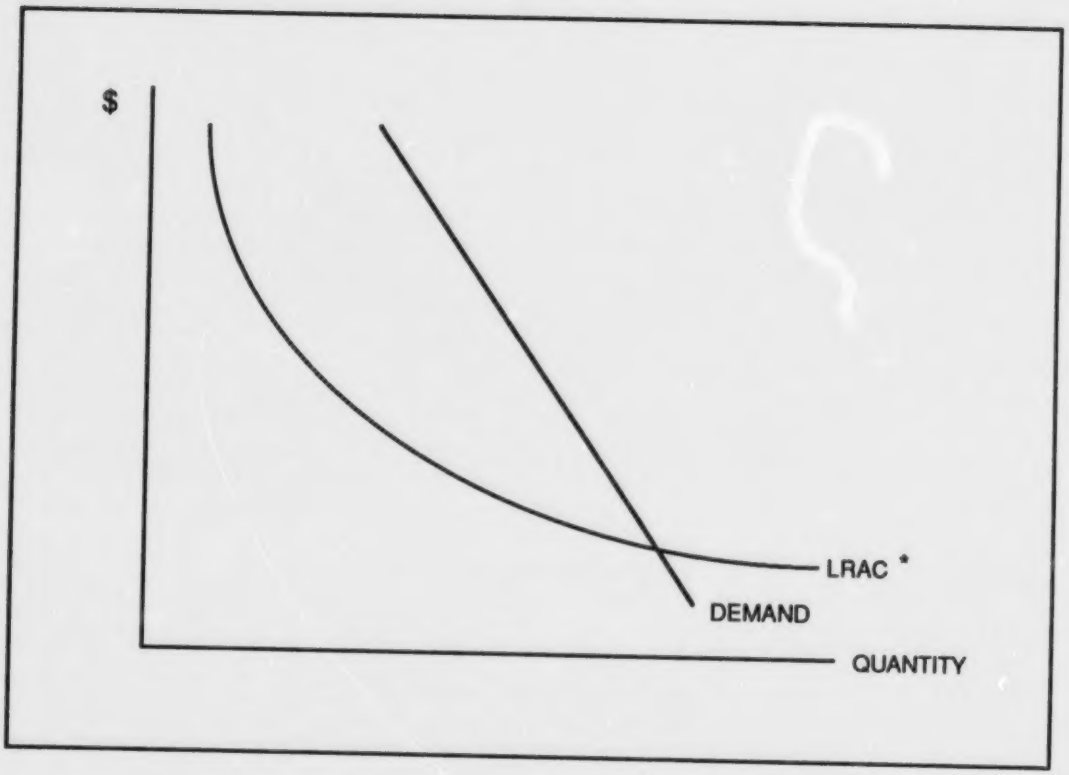
[76] Economics and Technology Inc., study commissioned by the Task Force.

EXHIBIT 4-1

Economies of Scale



* Long Run Average Cost.

arising at the firm level are those resulting from a centrally co-ordinated management and may include cost reductions realized from large scale financing, advertising and promotional programs, and the like.

Economies of scope arise when the production of a combination of two or more distinct services within a single firm results in lower costs than the production of each service separately by individual firms. Economies of scope exist from the sharing of facilities, labour or management between two or more products or services. For example, such sharing exists in the use of the local distribution system for both local and long distance calls as opposed, say, to two separate networks for long distance and local calls.

The concepts of economies of scale and scope can be used to define the requirements for the existence of a natural monopoly. An industry is defined to be a natural monopoly if a single firm is able to produce the industry output at a lower total cost than any combination of two or more firms. Whereas a natural monopoly could exist when either economies of scale or scope are present, either one by itself does not guarantee a natural monopoly. However, if both scale and scope economies exist, then a natural monopoly is assured.

Diseconomies of scale and scope occur when the advantages of size and diversity turn into disadvantages. For instance, when subscribers require customized service features or special attention, smaller production scale may be the only way to maintain high quality and performance standards. If production expands past a given point, per unit costs can increase due to problems in co-ordinating resource utilization with customer requirements. The traditional view of costs holds that in most industries costs tend to fall as production volume (or perhaps scope) is increased up to a point (i.e., the range of economies of scale and scope), after which unit costs will increase with volume (i.e., the range of diseconomies). The question being addressed with respect to natural monopoly characteristics in the long distance market is whether total market demand is satisfied before the range of diseconomies is reached.

Several other factors must also be considered when addressing the question of natural monopoly. These include: existing market structure; reliability of service; economies of fill; market demand; and capital costs as a barrier to entry. These factors are examined separately in the following paragraphs.

In the existing market, other companies besides telephone companies have facilities in place that potentially could be used to provide public long-distance telephone service. Such facilities include CNCP's network and Telesat's satellites and earth stations. Even where economies of scale exist, where more than one network is already in place it may be more efficient to allow those facilities to be used to provide service than to leave the firms with excess capacity. Conversely, considerations of this kind may prompt firms to build excess capacity.

Regarding reliability of service, particularly network survivability, the need for route diversity demands spatially distinct systems even where network economies of scale exist. The question that must then be addressed is whether such diversity should be provided by a single supplier or by more than one supplier.

Economies of fill are sometimes confused with economies of scale. Such economies describe the reduction in unit costs that can be attained by greater utilization of existing capacity. Economies of scale, however, allow for changes in the scale of production resources (i.e., the expansion of capacity). Economies of fill are relevant to the natural monopoly question if market demand falls within the range where increments in demand can be satisfied by greater capacity utilization.

Market demand, in aggregate and on a route-by-route basis, must also be considered. Each route must be evaluated for its capacity requirements and the most appropriate technology to serve that specific market. Thus, opportunities for scale economies will vary depending on the specific route in question and, accordingly, opportunities for viable competition may also vary. For example, while the Montréal-Toronto route requires a capacity of upwards of 60,000 voice channels, other routes would require considerably less. Furthermore, required capacity may increase with normal market growth, falling prices and the introduction of new services and new uses of the network.

The substantial initial capital outlay required to establish a long distance network may also deter entry, even when an entrant could match or better the existing costs of providing service. While this consideration is not actually a natural monopoly concern, it is relevant in that it may restrict the number of firms willing to serve a given market.

Discussion to this point has addressed the economies of scale and scope question with reference to facilities-based carriers. Resellers must, however, also be considered. In this regard, it should be noted that, while resellers divert traffic away from the telephone companies, this diversion of traffic is offset by their use of telephone company facilities. Therefore, the issue of economies of scale and scope in transmission facilities does not have the same relevance for resale activity as it does for facilities-based competition.

4.2.1.2 Information on the Existence of Economies of Scale and Scope

A consulting study was commissioned by the Task Force to examine the influence of expected technological changes on the telecommunications industry's cost structure, particularly its influence on economies of scale and scope in the provision of long distance telephone service. This study, entitled "The Effect of Changing Technology on the Structure of Costs for the Provision of Public Long Distance Telephone Service," was conducted by The Coopers & Lybrand Consulting Group, Toronto and is summarized below.

Coopers & Lybrand used four approaches to examine available evidence as to the existence of economies of scale and scope, and other factors that affect the cost function. The results of applying each approach (engineering, financial, cost accounting and econometric) are summarized in Exhibit 4-2. They are discussed below in more detail.

EXHIBIT 4-2

Usefulness and Limitations of the Four Approaches to Determining Economies of Scale and Scope

APPROACH	DESCRIPTION	USEFULNESS	LIMITATIONS
ENGINEERING	° Examines investment cost per circuit kilometre for different technologies.	° Focuses on physical parameters, therefore distinguishes between all sources of variation in the cost functions. ° Accounts for present and future technological evolution. ° Excellent reliability of results.	° Based on engineering costs (vs. company operating data). ° Based on plant level data only (not firm level).
FINANCIAL	° Examines financial performance of long distance operations for different companies.	° Makes comparisons of inter-corporate results in a single year, therefore is not affected by technological change. ° Good reliability of results.	° Does not distinguish between economies of scale, scope and fill. ° Does not distinguish between differences in technologies employed by each firm. ° Cannot predict impact of future technologies.
COST ACCOUNTING	° Examines trends in cost per circuit mile/per message over time.	° Brings historical perspective. ° Specifically accounts for the role of fill. ° Average reliability of results.	° Does not distinguish between size of impact of economies of scale, scope and technological change. ° Cannot predict impact of future technologies.
ECONOMETRIC	° Empirical estimation of the firm's cost function using historical data.	° Provides the link to theoretical economics.	° Disaggregated data are not reliable enough to estimate economies of scale/scope for individual products (i.e., long distance). ° Cannot predict impact of future technologies. Poor reliability of results.

SOURCE: The Coopers & Lybrand Consulting Group, study commissioned by the Task Force, Exhibit A1.

Engineering Approach

The engineering approach was based on an examination of actual long distance transmission and switching technologies. This approach is able to determine the presence of economies of scale and scope, and to indicate the effects of technological change and economies of fill. It is a useful approach in that it allows both present and future technological evolution to be taken into account. It is limited, however, by the fact that it is based on engineering costs rather than actual company operating data and, further, that only plant-level as opposed to firm-level data are included.

The engineering approach examined investment cost per circuit kilometre for three specific long distance telecommunications technologies, namely, analogue microwave, digital microwave and fibre optics. The cost characteristics of these three technologies, as estimated by the consultant, are demonstrated in Exhibit 4-3. The following observations can be made regarding these technologies:

(1) Economies of scale are exhausted at 13,000 voice channels for analogue radio. To increase the capacity of the transmission route using the same technology would require proportionate fixed cost increases each time current capacity is exhausted. As illustrated in Exhibit 4-3, this results in sharp increases in the cost curve each time an exhaust point is reached. The asymptotic value of this curve never falls below the asymptote reached for the first system installed. An important assumption made by the consultant is that subsequent radio systems do not share either the right of way or infrastructure of the first system. (Costs shown are in dollars of the early 1960s.)

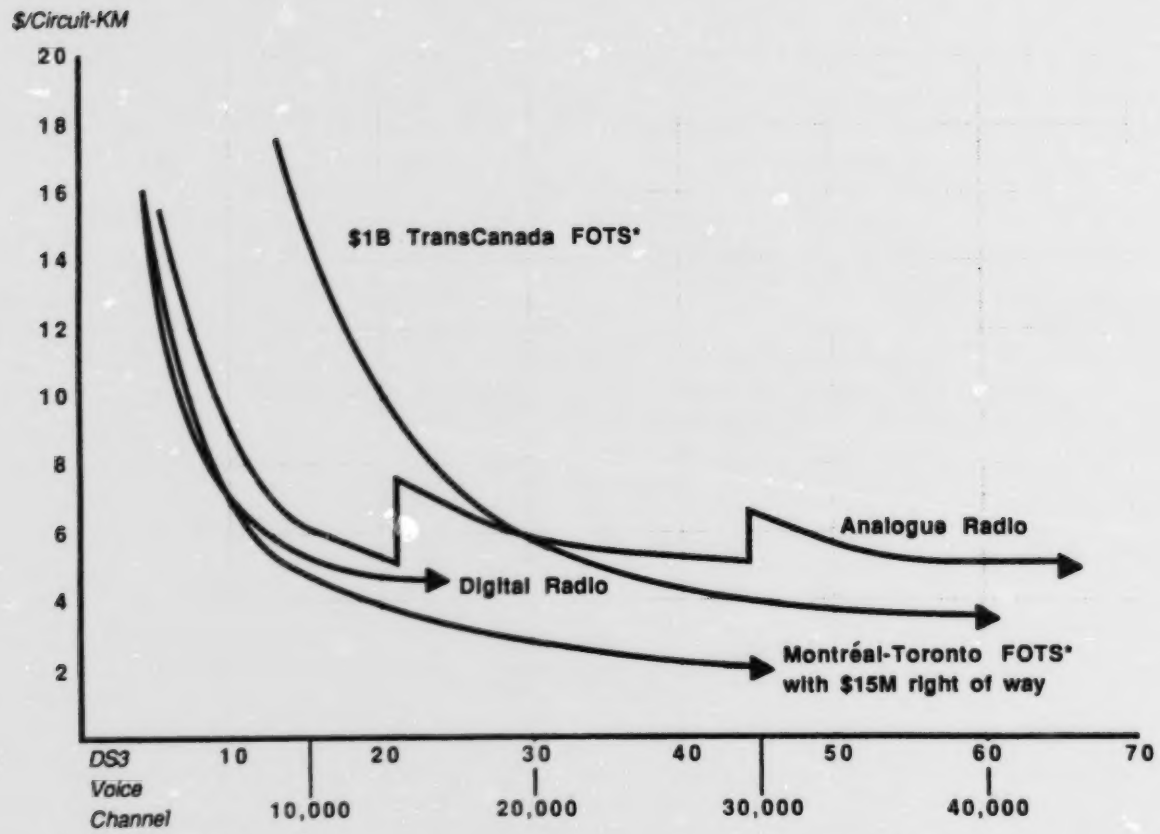
(2) Digital radio transmission can be provided at slightly less cost than analogue radio. (Dollar values of the mid-1980s were used.) The curve is shown to the first exhaust point; if extended, it would have the same characteristic shape as the analogue radio curve.

(3) Fibre optics transmission costs (in 1987 dollars) are lower than other technologies at capacities above 10,000 voice channels for a Montréal-Toronto type of system with easy placement. The transCanada fibre optics curve is derived arithmetically and is based on a probable upper limit cost of $1 billion for a transCanada buried fibre optics system. Such a system would be cost effective today well inside the exhaust point of a second radio system.

The consultant's report emphasizes that fibre optics transmission systems demonstrate virtually endless capacity at decreasing costs per circuit kilometre within capacities required in today's context. Anticipated improvements in electronic technologies should further increase capacity and reduce unit costs. Given the continuously falling nature of the fibre optics transmission cost curve (consistent with the existence of economies of scale in transmission), any competitor whose volume is significantly below that of the market leader would be at a serious disadvantage. The consultant notes that the magnitude of the disadvantage is dependent upon the absolute volume of the competitor that leads

Exhibit 4-3

Comparative Unit Investment Cost
for Three Intercity Transmission Technologies



* FOTS = Fibre Optic Transmission System

SOURCE: The Coopers & Lybrand Consulting Group, study commissioned by the Task Force, Exhibit A3.

in market share. That is, as the cost curve approaches its asymptotic value, the cost differences between competitors become smaller. However, the market leader will always retain some cost advantage.

The consultant also notes that network designers faced with the exhaustion of capacity in switching machines typically have added machines. The capacity of the resultant system is, however, less than a single multiplication of the number of systems since capacity is consumed through machine intercommunications and cross-switching. Dependent on individual configuration, the cost curve either falls slowly or starts to rise as the number of network terminations is increased. With the advent of very large capacity digital switches, the capacity value at which this situation occurs is moved to a significantly higher number of terminations. Therefore, the consultant suggests that technological evolution has increased economies of scale by increasing the number of circuits that can be accommodated before exhausting the capacities of a single system.

With respect to economies of scope, the consultant indicates that new technologies have led to an expansion of the services offered using telecommunications facilities. This has created more demand units over which to spread the production costs, thereby indicating that strong economies of scope are present. Additionally, the integration of voice and data made possible by the use of digital technology in both switching and transmission leads to large economies of scope. The report states that in the future evolving features such as Integrated Services Digital Network (ISDN) will reinforce existing economies of scope.

The main conclusion reached by Coopers & Lybrand from the engineering approach is that there are large economies of scale and scope in both switching and transmission technologies, and that these economies are being accentuated by evolving technology, particularly fibre optics and digital systems. This conclusion, as indicated by the consultant, applies at the plant level rather than at the firm level. The Task Force notes that when considered at the firm level (that is, the company as a whole), one U.S. study shows that network expenses make up at most 10 to 15 per cent of a long distance carrier's cost structure; in contrast, access costs and billing fees account for 60 to 75 per cent.[77] That is, the engineering information relates primarily to network facilities and does not consider non-network costs such as the costs of maintenance, billing, advertising and other administrative expenses which may offset or reduce the relative importance of economies of scale and scope in the network.

The consultant also states that although fibre optics provide almost unimaginable capacity, the necessity for route diversity to ensure network survivability reduces the economies of scale that would otherwise be available. Survivability optimization implies reasonably equal sharing of capacities on physically diverse sites or routes. The consultant notes that these separate routes might be provided by different companies, but that load sharing would need to be regulated in order to prevent existing economies of scale from conferring an advantage on the dominant supplier. However, if, as noted above, these plant-level economies of

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[77] Michael E. Porter, footnote 40, supra, p.22.

scale are reduced in importance by other factors, the advantage gained by the dominant supplier could be small. In the short term, network survivability needs could be reasonably met by microwave radio routes which parallel fibre routes.

Financial Approach

The financial approach applied by the consultant examined the past financial performance of two Canadian (Telecom Canada and CNCP) and four U.S. (AT&T, MCI, US Sprint and Western Union) intercity carrier groups. This approach is useful in comparing financial results within a single year, over which technological change would be relatively constant. Its usefulness is limited, however, by the fact that it cannot distinguish between economies of scale, scope and fill; it relates to past as opposed to future periods; and it is affected by the differing plant vintages and accounting practices of the various carriers.

The performance of the six carriers considered in respect of their intercity operations was determined by the consultant using 1986 financial data. The general conclusion drawn by the consultant is that the data support the existence of economies of scale and scope in intercity transmission. The consultant suggests that a small carrier can coexist with a big carrier only if a price umbrella is provided.

In arriving at these conclusions, the consultant recognizes that the base data used are far from perfect. In addition, the usefulness of the analysis is reduced somewhat by the fact that the Canadian carriers are not in comparable positions to their U.S. counterparts. Much of the so-called "profits" derived from the intercity operations of Telecom Canada members are a consequence of pricing policies set by regulators. By comparison, AT&T's rates have been significantly restructured. Furthermore, the estimated per-minute costs of CNCP were assumed by the consultant to be closely related to the MTS/WATS rates of Telecom Canada and do not necessarily bear any relationship to CNCP's potential costs of providing MTS/WATS. Hence, the comparison of CNCP relative to competitors is somewhat arbitrary.

Cost Accounting Approach

The cost accounting approach examined real cost per circuit mile and per message using U.S. and Canadian time series data. This approach provides an historical perspective, but it is not able to distinguish the causes of cost variations. In particular, it cannot distinguish between impacts resulting from economies of fill, those due to economies of scale and scope or those resulting from technological change.

The consultant notes that the cost per unit of production has been declining and should be expected to decline further in future. The consultant also notes that while the results cannot determine the relative role of new technologies vis-à-vis economies of scale and scope, they are consistent with the presence of economies of scale and scope identified in both the engineering and financial approaches.

Econometric Approach

The econometric approach involved a review of a number of published econometric studies on the cost function of telecommunications firms. This approach provides a link to economic theory and should help to indicate the presence of economies of scale and scope. However, the consultant found the econometric information to be inconclusive, and possibly unreliable. Furthermore, disaggregated data are not considered reliable enough to estimate economies of scale or scope for individual services – in this case, public long-distance telephone service – and some of the time series data used were quite dated.

4.2.1.3 Assessment of the Information on Economies of Scale and Scope

Based on the four approaches outlined above, Coopers & Lybrand expresses the opinion that the existing information points towards a strong and durable natural monopoly for Canadian long distance telecommunications in the next two decades. Furthermore, the consultant concludes that a second intercity carrier would not be viable, for either "monopoly" or "competitive" services, unless strong and continued regulatory protection were provided.

In assessing the consultant's report, the Task Force finds convincing the information obtained from the engineering approach which suggests the existence of scale economies in the transmission network although, as already noted, only a limited portion of a firm's costs are included in this category. The information obtained from the financial, cost accounting and econometric approaches is inconclusive with respect to both scale and scope economies; nor does it address all other factors noted above which are considered to be relevant to the natural monopoly question. Consequently, the Task Force concludes that available information is insufficient to resolve the question of whether the Canadian public long-distance telephone market constitutes a natural monopoly.

4.2.2 Productivity Change

4.2.2.1 The Linkage Between Productivity and Competition

In conducting this examination, the Task Force sought to determine what impact competition in the provision of public long-distance telephone service would have on productivity. In this context, productivity is deemed to increase where the cost per unit of output decreases.

Empirical evidence was available to the Task Force which demonstrated that there have been substantial productivity gains in the Canadian, U.S. and U.K. telecommunications industries in the past two decades. However, only limited empirical evidence is available to distinguish the effects of various factors that may influence productivity, including technological change, economies of scale and scope, regulatory changes and competition.

The question of whether competition has an impact on productivity in long distance service provision was examined at two levels:

(1) Productivity changes that could occur within firms providing long distance service if they are confronted with competition; and

(2) Productivity changes within the long distance service industry as a whole that result from changing from a monopoly carrier environment to a multiple supplier, competitive environment.

The Task Force undertook a substantial amount of research on this issue. A study was commissioned by the Task Force to investigate the cost impact of long distance competition in the United States. This study, conducted by David Chessler and Associates, Bethesda, Maryland, is entitled "The Effect of Toll Competition on Prices, Costs and Productivity of the Telephone Industry in the United States." Related information on the impact of changing technology on the economies of scale and scope is contained in the Coopers & Lybrand study referred to earlier (section 4.2.1). Task Force staff also reviewed the existing literature on economies of scale and scope, and on the link between productivity and competition in various industries.

4.2.2.2 Productivity at the Firm Level

A number of factors affect the cost per unit at the firm level – notably, economies of scale and scope (see section 4.2.1), and organizational efficiency. The link between competition and this latter concept, termed "x-efficiency," was of particular concern to the research of the Task Force.

The basic x-efficiency hypothesis is that neither firms nor individuals are always as productive as they could be and, as a result, cost minimization is not always achieved. This is generally accepted in the theoretical and empirical literature, but a debate revolves around the question of whether various changes in the environment lead firms or individuals to work to higher net levels of productivity, and how significant an item in any given firm's cost structure x-efficiency savings can be.

An important issue for the Task Force was whether x-efficiency gains could be expected to be greater in a competitive long-distance telephone service environment than in a monopolistic one. Various theoretical arguments address this issue. All other things being equal, the argument respecting why x-efficiency would be greater in a competitive environment than in a monopolistic one lies primarily with the incentive characteristics of each environment.

If a monopolist fails to produce the required service level in any given time period, the consequence will be minimal since its customers cannot easily go elsewhere. By contrast, in a competitive environment such mistakes could result in loss of customers, thereby causing financial loss. Furthermore, if a monopolist uses higher levels of inputs than are required to minimize cost, customers have few options; that is, the incentive arising from customer loss in the face of poor performance is essentially lacking in either a monopoly or a less competitive environment. Indeed, while a regulatory forum can partially offset this incentive deficiency, it cannot always fully replace the power of financial consequence. In summary, the theory states that the incentive to attain maximum x-efficiency, all

other things being equal, is greater in a competitive environment than in a monopoly environment.

There have been a number of microeconomic studies examining firm-level efficiency in various industries which attempt to develop empirical evidence to determine which factors result in greater x-efficiency.[78] The review of the literature by the Task Force located a variety of studies which identified evidence of competition induced x-efficiency in firms operating in such diverse areas as manufacturing and electricity generation. The most relevant of these studies review the presence of x-efficiency in the municipal electric utility industry in the United States.

The first study looked at the cost conditions of two sets of U.S. municipal electric utility firms, i.e., those operating in a monopoly environment versus those subject to competition in the form of duopoly.[79] Using 1964-1968 data from 49 U.S. cities, it was found that the average cost facing electric utilities was reduced, on average, by 10.75 per cent because of competition induced x-efficiency as a result of different operating environments. Furthermore, the author reports that the extent of efficiency gain was more noticeable in smaller electric utilities as compared to larger ones. This observation is ascribed to the smaller firms being more sensitive to competitive pressures. Larger utilities were able to realize economies of scale and, in fact, at 222 million kilowatt hours of electricity, economies of scale overwhelm the economies of x-efficiency. This represents a relatively small capacity when compared to the amount of electrical power sold by some of Canada's major electric utilities.

The second study examined the same 49 cities, and found that competition had ceased in 11 centres.[80] In 17 of the remaining cities, the study found that x-efficiency gains ranged from 2.1 to 8.9 per cent. Estimates of total losses due to all inefficiencies were higher in 30 unregulated non-profit oriented municipal companies. The study does not identify how cost savings were achieved, although it did find the marginal cost of non-production expenses to be lower in duopolies. Such expenses included customer accounts, sales expenses, administrative and general expenses.

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[78] The author of a leading text on industrial organization has concluded that, "x-inefficiency exists and it is more apt to be reduced when competitive pressures are strong than when firms enjoy insulated market positions." See F. Scherer, Industrial Market Structure and Economic Performance, Rand McNally College Printers, Chicago, 1970, p.466.

[79] Walter J. Primeaux, "An Assessment of X-Efficiency Gained Through Competition," Review of Economics and Statistics, Vol.59, 1977, pp.105-108.

[80] D.R. Hollas and R.S. Hereen, "An Estimation of the Deadweight and X-Efficiency Losses in The Municipal Electric Industry," Journal of Economics and Business, Vol.34, pp.269-81.

The third study considered examined the link between competition and x-efficiency in electrical firms faced with competition from natural gas distribution companies for end-use load, particularly in the areas of space heating and water heating.[81] The study compares the 1970-1972 costs of electrical energy generation in 25 electrical utilities which also own the local gas distribution utility versus 54 which compete against a gas utility owned by another organization. The author concludes as follows:

> ...a reduction in competitive pressure, stemming from the joint ownership of the electric utility and the local natural gas distributor would lead to higher costs for the generation of electricity in the magnitude of 6.1% (1970) or 8.5% (1972). This cost difference would vary with firms of different size.
>
> Competitive entry into established markets can lead to the enforcement of higher levels of efficiency on the work force.[82]

The Chessler report found that the effects of long distance competition on costs and productivity in U.S. telephone firms do not appear to have been systematically analyzed either from a theoretical or an empirical point of view. Accordingly, the consultant concluded that the U.S. literature was inconclusive as to the effects of competition on telecommunications productivity at the firm level.

The Chessler report points out that the theoretical question of efficiency gains is further complicated if a regulated monopoly firm is subject to competition in only some of its markets, such as would be the case where long distance services were competitive but local services were not.

Theoretical arguments and microeconomic studies suggest that, all other things being equal, efficiency at the firm level should be greater in a competitive versus a monopolistic environment. However, the Task Force was unable to find any conclusive empirical evidence to support such a conclusion with respect to telephone companies. Where there are such efficiencies at the firm level, they could be offset by the loss of economies of scale.

4.2.2.3 Productivity at the Industry Level

In the absence of conclusive information from the literature, Chessler attempted to develop quantitative tests with the intention of correlating productivity changes with the advent of competition in U.S. public long-distance telephone service. However, a number of methodological difficulties prevented the derivation of conclusive empirical results, including:

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[81] R. Stevenson, "X-Inefficiency and Interfirm Rivalry: Evidence from the Electric Utility Industry," Land Economics, Vol.58, February 1982, pp.52-66.

[82] Ibid., p.61.

(1) The growth of competition in the U.S. has been a gradual process – from the introduction of MTS/WATS competition in 1978 to the implementation of divestiture and equal access in 1984. It was therefore not possible either to set a specific date when the industry became competitive or to judge when competition per se had any significant effect on the behaviour of established firms.

(2) It is debatable as to whether or not divestiture should be included as an effect of competition. While divestiture in the U.S. is certainly related to the introduction of competition, this event had an extraordinary impact on the industry which cannot be attributed entirely to MTS/WATS competition.

(3) During the period under study (1977–1987), a number of other external factors had important impacts on telecommunications costs – including accounting changes required by regulators, reductions in corporate income taxes and the adoption of accelerated depreciation schedules in certain jurisdictions.

The consultant conducted regression analyses on various time series data related to the performance of the telephone industry but, because of the above–mentioned difficulties with the available data, was unable to establish a quantitative link between competition and productivity in the U.S. long–distance telephone service industry. Because relatively minor changes in the specifications of the regression equations would result in both beneficial and adverse impacts of competition being observed, the Task Force considers that the regression analysis is inconclusive.

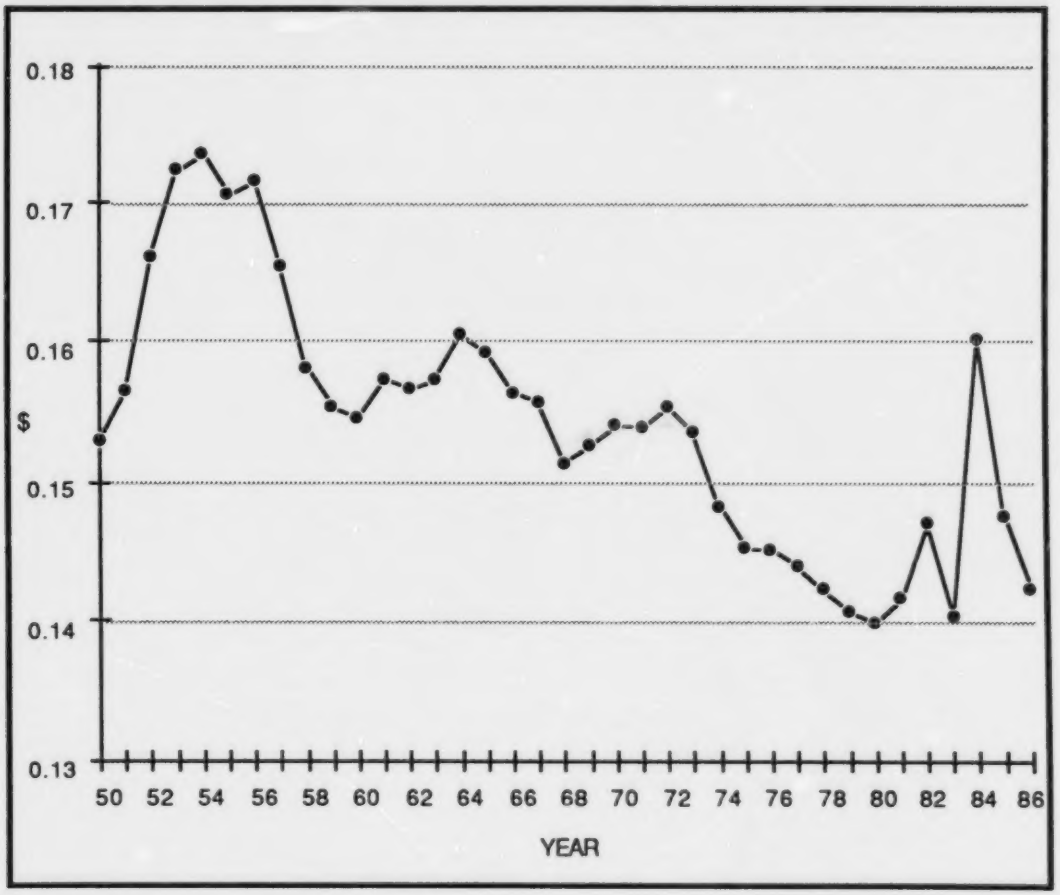
Although it was not possible to draw quantitative conclusions regarding the effects of long distance competition on productivity in the U.S. telephone industry, the following conclusions can be drawn from the data collected by the consultant:

(1) Constant dollar expense per call for the U.S. telephone industry had been dropping since 1972, but this turned around in 1982 and 1984 with sharp peaks being observed (Exhibit 4–4). (Expense per call figures presented in this exhibit are for local and long distance calls; the ratio of the number of long distance calls to local calls has been gradually increasing such that long distance calls are presently approximately 10 per cent of total calls.) The consultant associates the increase in 1982 with substantial increases in depreciation charges, and the 1984 increase with divestiture and the conversion to equal access.

(2) Total factor productivity, which measures output changes relative to capital and labour (and other) inputs, showed continuous improvement for over 30 years – from 1960 to 1980 it averaged approximately 4 per cent per year (Exhibit 4–5). After 1980, productivity growth began to slow down, and it became negative in 1982 and 1984. There was an increase to almost average levels in 1983 and small positive gains in 1985 and 1986. Labour productivity was generally rising while capital productivity has declined

Exhibit 4-4

Expense Per Call in Constant U.S. Dollars*
(Base Year 1982)

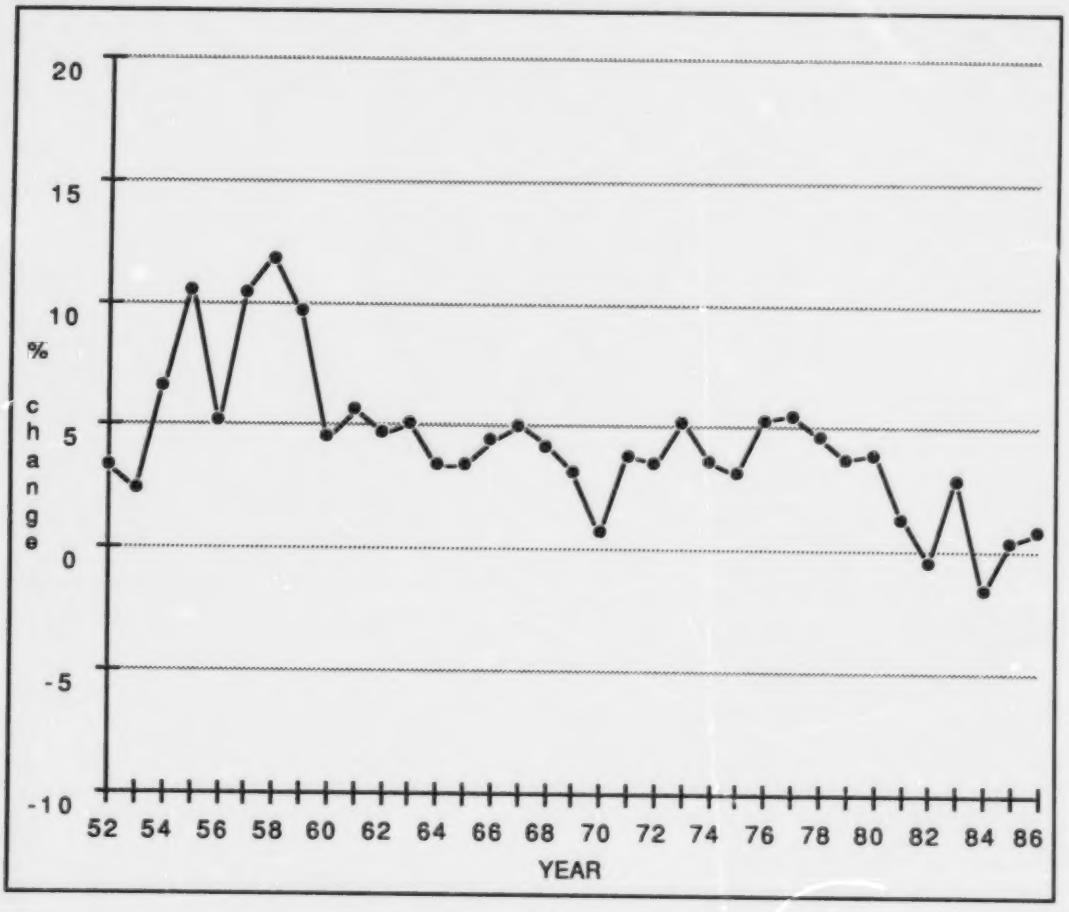


* Expenses per call are for local and long distance calls.

SOURCE: David Chessler and Associates, study commissioned by the Task Force.

Exhibit 4-5

Total Factor Productivity
(Percentage Annual Change)



SOURCE: David Chessler and Associates, study commissioned by the Task Force.

in most years since 1980.[83] The consultant speculates that the decline in total factor productivity may have been due to factors such as (a) the possibility that the capabilities of existing services were being increased at substantial cost, (b) the construction of duplicate networks resulting in a decreased usage of facilities and (c) the potential loss of economies of scale due to the separation of interLATA and intraLATA long-distance traffic into physically separate networks. Other possible explanations include the possibility that quality improvements in telephone service, which caused an increase in costs but which were not captured in measured output, led to a perceived decline in productivity.

The dramatic rise in productivity in 1983 is seen by the consultant to be a result of the industry departing from normal practices in preparing for divestiture – i.e., the embedded base of station equipment was sold to customers, AT&T withheld innovations in station equipment, and maintenance allocations were primarily expended in reconfiguring the network. Consequently, "value added" may have risen in 1983 not because output increased, but rather because purchases from other industries declined. In addition, the U.S. Bureau of Labor Statistics did not consider as labour input those workers who were preparing for divestiture. Alternatively, it may have been the result of efficiency improvements.

4.2.2.4 Applicability to Canada

The applicability to Canada of the consultants' findings on expense per call and total factor productivity depends on the substantive similarities and differences between the U.S. environment in the 1970s and 1980s, and the current Canadian situation. For instance:

(1) The structural separation of AT&T and the Bell operating companies (divestiture) appears to have coincided with substantial (albeit one-time) costs. While measures might be necessary to allow cost separation between long distance and local services if competition were introduced in Canada (structural separation need not occur), associated costs would not necessarily be as great as those incurred by divestiture.

(2) The history of depreciation expenses, which are a major cost for all telephone companies, has been quite different in Canada. In general, Canadian carriers have already adopted depreciation practices equivalent to recent changes implemented in the U.S., so that the Canadian industry would not likely experience the same steep increases in depreciation charges that have occurred in the United States.

In terms of applying the results of the microeconomic studies to the financial modelling of Chapter 6, no numerical factor was ascribed to the effect of long distance competition on the productivity of telephone companies. Available

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[83] David Chessler and Associates, study commissioned by the Task Force. (Original Source: American Productivity Center, Multiple Input Productivity Indexes, Houston, 1987, Table V.4, p.36.)

evidence relating x-efficiency to the existence of competition did not include empirical evidence from the telecommunications industry. The Task Force was therefore unable to determine the specific quantitative change in productivity at the telephone firm level, if any, that would result from competition. Furthermore, cost increases resulting from the provision of equal access and the loss of economies of scale, which were considered by the consultant in the examination of productivity, have been directly included in the modelling exercise. In the absence of a reliable quantitative measure of the impact of competition on productivity, the Task Force instead adopted the approach of identifying what specific productivity gains would need to result from competition in order to offset the negative revenue impacts of competition on each telephone company.

4.2.3 Costs of Carrier Access

This section addresses the issue of the cost of modifying the existing telephone network to provide competitors with switched access to the local exchange. Such costs, if found to be prohibitively high, could influence the nature of competitive entry. The discussion of costs that follows will be preceded by a technical description of various access methods that could be implemented by telephone companies. It should be noted that while certain of these costs would be incurred only if competitive entry were allowed, others would be incurred whether or not competition were permitted.

4.2.3.1 Technical Aspects of Carrier Access

In order to provide long distance services, a carrier must have access to local customers, i.e., a prospective customer must be able to access the network of the long distance provider from his or her telephone set. This can be accomplished by providing a dedicated loop from the long distance company to the customer (known as "dedicated access") or by using the switching network of the company providing local service to connect the customer to the long distance service provider (known as "switched access"). Dedicated access is available to connect competitive suppliers to telephone companies to provide, for example, private line service. Switched access is also available to certain competitive data service providers (essentially permitting them to make a local call to set up a data connection).

Switched access could be provided to long distance service competitors through a variety of methods, most of which would require modifications to current switching equipment, and thus impose costs on the local telephone company. The methods can be distinguished in a number of ways, but they can be broadly categorized according to the dialling pattern used, the type of switch to which the competitor is connected, and the signalling and supervisory information provided by the local telephone network.

The minimum information needed to complete and bill a long distance call comprises: (a) the called party address (telephone number); (b) the identity of the calling party; and (c) an indication of the start time and duration of the conversation. At present, subscribers generally only need to provide the called telephone number. Caller identity is provided through automatic number identification (ANI), the start of conversation is established by a network signal

indicating that the call has been answered (answer supervision), and the end of the conversation is indicated by one of the parties hanging up (noted by disconnect supervision). In most of Canada, the subscriber distinguishes between local (toll free) and other calls by using a prefix in front of the latter ("1" for direct distance dialling, "0" for operator-assisted calls, etc.).

The telephone company network includes different types of switching equipment (central offices) designated according to the function performed. Subscribers are connected to switching equipment known as "end offices" by means of telephone "lines." Offices are interconnected using "trunks," which may also be used to connect customer switching equipment (private branch exchanges or PBXs) to the network. Certain central offices are used to establish connections between other central offices; these are called "tandem" offices. Tandem offices used for switching long distance calls, because of their particular function, are known as "toll" offices. An unmodified reference to a tandem office generally refers to a local tandem office, viz., one used to establish connections between end offices in the same local calling area.

An alternate service provider must connect its network to a telephone company office in order to obtain local switched access. The Task Force examined sixteen access variations within six general categories (Access Types A through F) by which telephone companies could provide voice grade access.[84] Exhibit 4-6 presents a summary description of these various access methods. Exhibit 4-7 further illustrates the physical interconnection and associated dialling procedures that distinguish the different access methods.

An alternative service provider's facility that is connected to the local telephone network is called a "point of presence," of which there may be one or several to provide local access in a particular locality. The switched access for a particular point of presence is called an end office, tandem or long distance connection according to the type of office to which the point of presence is connected (end office, local tandem or toll office, respectively). This connection may be through a telephone line ("line-side" connection) or through a trunk ("trunk-side" connection).

A local subscriber reaches the alternative service provider's network by establishing a local connection from his or her telephone set to the office at which an alternative service provider's point of presence exists. This can be accomplished (a) by dialling a local number; (b) by dialling a universal pseudo-number (universal in the sense that the same number would be employed wherever the alternative service provider could be accessed); (c) by using a special prefix; or (d) directly by prearrangement with the local company ("presubscription"). The

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[84] These access methods are based primarily on two papers submitted by Bell Canada to the CRTC in the Interexchange Competition Proceeding - namely, Bell Canada Report on the Resource Cost Study of Connecting Arrangement for Switched Access (CASA), September 1984; and Additional Information for Bell Canada Report on Resource Cost Study of Connecting Arrangement for Switched Access (CASA), 2 November 1984.

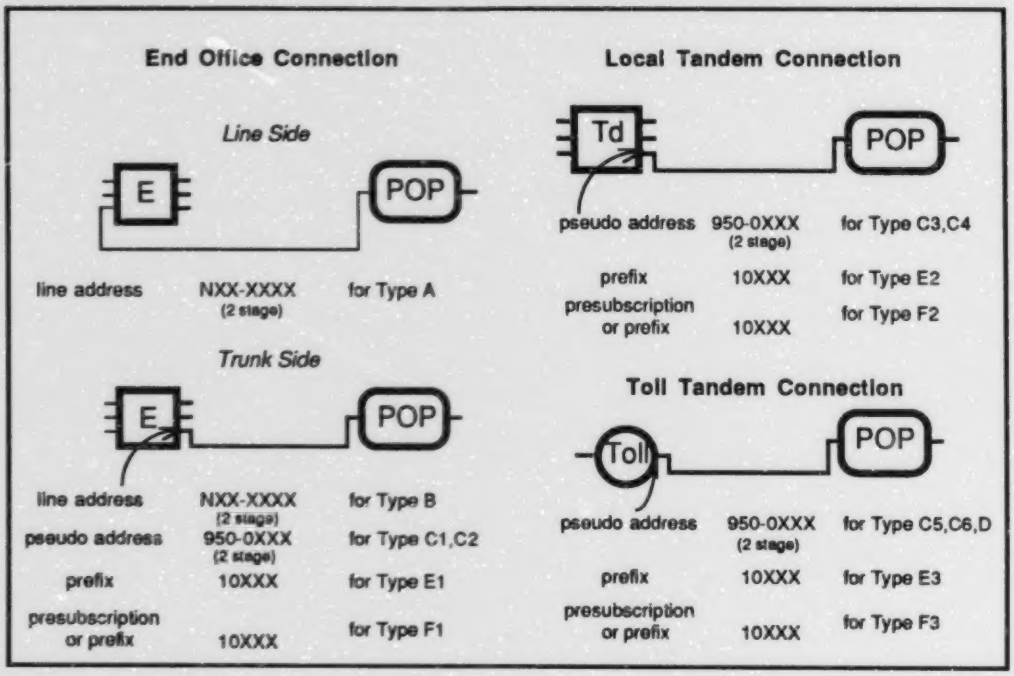
EXHIBIT 4-6

Local Exchange Access Methods

TYPE	SERVING OFFICE	DIALLING PATTERN	ANI PROVIDED	ADS PROVIDED	NOTES
A	Local line-side	(1) NXX-XXXX	No	SxS Switches only	Abbreviations: ANI - Automatic Number Identification ADS - Answer/Disconnect Supervision NPA - Number Plan Area Code PIN - Personal Identification Number SxS - Step-by-Step DTMF - Dual-Tone Multi-Frequency
B	Local trunk-side	(2) PIN+NPA+NXX-XXXX	No	Digital Switches only	
C1	Local trunk-side		No	Yes	
C2			Yes		
C3	Local tandem	(1) 950-0XXX	No		
C4		(2) PIN+NPA+NXX-XXXX	Yes		
C5	Toll tandem		No		
C6			Yes		
D1	Toll tandem	(1) 1+950-0XXX	No	Yes	1. Customer requires a DTMF signalling capability for two-stage dialling.
D2		(2) PIN+NPA+NXX-XXXX	Yes		
E1	Local trunk-side	10XXX+NPA+NXX-XXXX	Yes	Yes	2. Dialling of PIN is optional when ANI is provided.
E2	Local tandem				
E3	Toll tandem				
F1	Local trunk-side	1+NPA+NXX-XXXX (preselected carrier) 10XXX+NPA+NXX-XXXX (for alternative carriers)	Yes	Yes	3. Answer/disconnect supervisory signals cannot be passed when automatic message accounting record is made.
F2	Local tandem				
F3	Toll tandem				

Exhibit 4-7

Local Exchange Access Interconnection and Dialling



Note: 'POP' indicates the alternate service provider's point of presence.

pseudo-number would be of the form "950-OXXX" (dialled with or without a "1" prefix), and the prefix of the form "10XXX." In both cases, the "XXX" designates a unique three-digit identifier associated with a particular alternative service provider. A terminating connection would be established by a local connection from the point of presence to the subscriber line (using the called party's number). Unless a prefix or presubscription is used, the caller must dial in two stages, the first giving the point of presence address and the second, after a point of presence-supplied dial tone, the called number. If the network does not identify the subscriber (no ANI), the second-stage dialling must also include subscriber identification (a personal identification number or PIN). If a prefix or presubscription is used, only the called number must be given, which can be done in a single stage. (The latter would only be used in conjunction with local company provision of ANI.)

The quality of the connection is generally measured in terms of sound fidelity, ease of use and the adequacy of information for billing. Higher quality connections are generally more costly to provide, i.e., the carrier must make more equipment modifications and provide more information in call set-up and disconnect. Access methods presented in these two exhibits range from Type A (line-side connection) which is considered to provide the lowest quality connection to Type F (equivalent to equal access in the United States). A more detailed description of each access method is provided in Appendix B.

4.2.3.2 Carrier Access Costs

The costs of providing access to alternative service providers fall into two categories: first, start-up costs comprising end-office modification costs, serving office modification costs, and operational and administrative costs; and second, ongoing costs comprising network costs, connection costs, and operational and administrative costs. The costs of each access method were calculated for various telephone companies across Canada using information provided by them, some of which was supplied in confidence to the Task Force. Costs were calculated for the following competition scenarios:

(a) Routes over which competition could develop:

- between extended area service centres having 100,000 network access services or more;

- between extended area service centres having 25,000 network access services or more;

- between all centres.

(b) Variations in the market share of alternative service providers:

- 10 per cent market share in the areas served by competing carriers;
- 20 per cent market share in the areas served by competing carriers.

The modification costs to provide two-stage dialling to an alternative service provider were found, in the main, to range between $0.00 and $0.50 per line (Access Types A, B, C and D). Some of the computed costs exceed the upper bound of this range; however, another variant of the type of access that would give essentially the same functional capability could be provided within the stated cost range except for some of the smaller telephone companies. These types of access could be established in all large centres (over 25,000 network access services, e.g., subscriber access lines), and a numerical variant of each alphabetic type except Type B could be provided everywhere. The configurations using a local tandem for access cannot be established as easily as other types because this type of switch is not used in many parts of the country.

The modification costs to provide single-stage dialling to an alternative service provider generally range from $0.20 to $15 per line for Type E access and from $4 to $20 per line for Type F access. Some of the computed costs exceed the upper bound of this range; however, another variant of that type of access that would give essentially the same functional capability could be provided within the stated cost range, except for some of the smaller telephone companies. These types of access could be used to provide service to approximately 80 per cent of subscribers everywhere except in sparsely populated regions. The configurations using a local tandem for access cannot be established as easily as other types for the reason noted above. The higher modification costs of Type E and Type F access result from the higher costs incurred to provide higher quality connections.

The ongoing costs are mostly about $0.02 per minute at both the originating and terminating ends of a long distance call, except for Type F access where an additional cost is introduced which is associated with the administrative work of presubscription. The magnitude of the presubscription cost is uncertain, particularly since the amount of annual turnover strongly influences this cost. The dominant type of switch in a telephone company's serving area also strongly influences Type F costs. The cost of equal access software depends on the expected number of lines for which the switch vendor expects it will be installed. The costs do not vary markedly at different telephone penetration levels.

Exhibits 4-8 and 4-9 present cost summaries for total Canadian local network modification and annual ongoing costs, respectively, to establish and maintain access to the local telephone network. Modification costs for Type A access are zero. As would be expected, modification costs for other types of access increase with the number of centres in which alternative service providers establish points of presence. Total Canada-wide modification costs range from approximately $1 million (1990 dollars) for Type B access with competitors providing access in only extended area service centres with greater than 100,000 network access services to more than $213 million for Type E3 access for all centres. The total modification costs for Type F access range from approximately $98 million for extended

EXHIBIT 4-8

Total Canadian Local Network Modification Costs for Alternative Long-Distance Service Provider Access*

($1990 Millions)

ACCESS TYPE	A	B	C1	C2	C3	C4	C5	C6	D1	D2	E1	E2	E3	F1	F2	F3
EAS Centres With 100,000 NAS**	0	1	22	22	22	35	22	24	1	3	82	95	84	98	115	106
EAS Centres With 25,000 NAS	0	3	46	46	47	93	47	49	2	5	125	172	129	130	191	144
All Centres	0	13	104	104	49	96	105	108	5	9	208	186	213	166	209	184

* 1990 Dollars. Estimated by the Task Force from data submitted by the telephone companies.

** EAS - Extended Area Service; NAS - Network Access Services (e.g., subscriber lines). Does not include costs for SaskTel, for which underlying data were submitted in confidence.

EXHIBIT 4-9

Total Annual Canadian Ongoing Costs for Alternative Long-Distance Service Provider Local Access*

($1986 Millions)

ACCESS TYPE		A	B	C1	C2	C3	C4	C5	C6	D1	D2	E1	E2	E3	F1	F2	F3
EAS Centres With 100,000 NAS**	10% Market Share	28	28	35	34	28	28	30	30	30	30	34	28	30	38	32	33
	20% Market Share	55	56	70	68	56	55	60	55	60	59	68	55	59	75	63	67
EAS Centres With 25,000 NAS	10% Market Share	35	35	44	44	36	36	39	38	39	38	44	36	38	49	41	44
	20% Market Share	70	71	89	87	71	71	77	70	77	75	87	71	75	98	83	87
All Centres	10% Market Share	49	45	59	59	37	37	53	52	52	51	60	37	52	63	44	55
	20% Market Share	96	88	119	115	71	72	103	94	103	101	116	72	101	122	85	107

* 1986 Dollars. Estimated by the Task Force from data submitted by the telephone companies.

** EAS - Extended Area Service; NAS - Network Access Services. Does not include costs for SaskTel, for which underlying data were submitted in confidence.

area service centres with 100,000 or greater network access services to approximately $209 million for all centres. Ongoing costs depend on market share as well as the other variables mentioned above. Total annual Canada-wide ongoing costs range from approximately $28 million to $122 million (1986 dollars). Detailed access costs on a company-by-company basis for the scenarios outlined above, together with a listing of cities with the number of network access services equal to or greater than 25,000 and 100,000, respectively, are also presented in Appendix B.

4.3 Price Elasticity of Demand

4.3.1 Definition of Price Elasticity of Demand

The price elasticity of demand is a measure of the responsiveness of quantity demanded to changes in price, holding all other factors constant; it is defined as the percentage change in the quantity demanded of a product divided by the percentage change in the price of that product. Economists define three ranges of price elasticity:

(1) Price elastic: when price falls, demand rises more than proportionately.

(2) Price inelastic: when price falls, demand rises less than proportionately.

(3) Unitary elastic: when price falls, demand rises proportionately, leaving revenues unaffected.

If MTS/WATS is price elastic and the price is reduced, then the gross revenue from selling more units will exceed the gross revenue lost due to the price decrease, so that gross revenue increases on balance. If MTS/WATS is price inelastic, a price decrease will lead to a reduction in gross revenues.

The price elasticity of demand for MTS/WATS is thus a measure of the responsiveness of volume demanded (e.g., the number and duration of long distance calls) to changes in the price, holding other factors constant. The other factors that may influence MTS/WATS demand include: levels of income and business activity; the prices and characteristics of substitutes such as private line service, letters or telegrams; the size of the network; the quality of the service; and the availability of direct distance dialling and ANI. In other words, these factors must also be accounted for in determining the correct value of the price elasticity of demand.

4.3.2 The Importance of Price Elasticity of Demand

In considering whether or not to permit competition in the provision of public long-distance telephone service, the price elasticity of demand is a key element in estimating the revenue impact on telephone companies. One of the consequences of sustained competition in the provision of public long-distance telephone service is that the market share of the existing telephone companies would be reduced. The impact of such a reduced market share on the existing carriers would be less onerous in an environment of overall market (revenue)

growth. In particular, if overall market growth sufficiently exceeds the amount of business that telephone companies lose to new competitors, then the existing public long-distance telephone service providers could face competition (and lose market share), yet still have long distance revenue growth. Since lower prices will stimulate overall market demand, it is important to understand the degree to which the market will respond to price reductions. Clearly, continued revenue growth while competition is introduced is much more palatable for telephone companies than the prospect of declining long distance revenues.

Thus, to the extent that competition in the provision of public long-distance telephone service is associated with reduced rates, the price elasticity of demand for the total market will affect the overall level of market revenues. If the demand is elastic (i.e., if the value of the elasticity over the relevant range of the demand function is greater in absolute value than one), then, other factors held constant, the overall (total market) revenues would increase and there would be a bigger "pie" to be shared by the telephone companies and new entrants. If, on the other hand, the demand function is inelastic (i.e., the absolute value of the price elasticity of demand is less than one), then, other factors held constant, the overall (total market) revenues would decline if public long-distance telephone rates were reduced.

Additionally, it is important to consider whether the introduction of competition would by itself change the overall price elasticities of demand. This is possible, for example, if changes in the market structure for public long-distance telephone service would either shift the demand curve or cause a movement along the curve to a new point that has a different elasticity.

4.3.3 Price Elasticity of Demand Values

A consulting study was commissioned by the Task Force to review and critically assess the available literature concerning the price elasticity of demand for public long-distance telephone service in Canada. This study, entitled "Elasticity of Demand for Long Distance Telephone Service," was conducted by Steven Globerman Associates Ltd., Vancouver.

The consultant concluded that the most plausible estimates of the price elasticities of demand, given existing information, are as follows:

Intra-company	MTS:	- .5	to	- .7
Inter-company	MTS:	- .55	to	- .85
Canada-U.S.	MTS:	- .65	to	-1.00
International	MTS:	- .6	to	-1.20

The consultant's study found that estimates of the price elasticity of demand for WATS were sparse and somewhat erratic. The consultant states, however, that the demand for WATS is more price elastic than is business demand for MTS. This is presumed to reflect the fact that, across all business subscribers, MTS is more substitutable for WATS than is WATS for MTS. The consultant notes that the esti-

mates of MTS elasticity actually represent a hybrid of the impacts of changes in MTS prices as well as WATS prices.[85]

The estimates of the price elasticity of demand are best expressed as ranges rather than points, given the uncertainty regarding the subject at this time. Although the consultant presented what he considered to be the most plausible ranges, there are other studies which predict that the value is outside these ranges, both higher and lower.[86] For example, price elasticity of demand values for MTS/WATS in studies surveyed by the consultant varied from approximately -0.4 to well over -1.0. In conducting the financial analysis presented in Chapter 6, mid-point values of the ranges presented by the consultant were used. Since some uncertainty regarding the level of elasticity exists, sensitivity tests were performed on the end-points of the consultant's ranges and using values noted by the consultant that were outside these ranges. The results are reported in Chapter 6.

The consultant also considered specific ways in which competitive entry might affect the price elasticity of demand for public long-distance telephone service - specifically, whether entry affects the information available to consumers, whether it affects the "brand loyalty" of buyers, and/or whether entry encourages an expansion in the number of potential buyers. The consultant notes that the relationships identified are subtle and, on balance, probably not empirically substantial. Open competition of various forms, the consultant concludes, could reduce price elasticity of demand. The effect, however, is not seen as being of sufficient potential significance to alter the range of elasticity estimates presented above.

4.4 Macroeconomic Impacts of Competition

This section discusses the available information regarding the overall effects that competition in the provision of public long-distance telephone service would likely have on the Canadian economy as a whole. In this particular case, the research work of the Task Force included reviewing a number of studies conducted by various groups in Canada and the United States to predict the macroeconomic effects of lower long distance rates or rate rebalancing. While not explicitly oriented to determining the macroeconomic effects of competition, these studies examined the impacts of the kinds of rate changes that could occur in a competitive environment. It should be noted that other measures of economic impact (such as microeconomic studies of consumer surplus) are not reported here, although they tend to support the implications of the macroeconomic studies considered.

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[85] For further discussion of hybrid impacts, see Steven Globerman Associates Ltd., study commissioned by the Task Force.

[86] See ibid. for a summary of these other studies (Table 1).

4.4.1 Effects of Telecommunications Rate Changes on the National Economy

4.4.1.1 The Use of Macroeconomic Models

Macroeconomic models are useful in assessing the effects of various policy alternatives, pricing and otherwise, on the national economy. These models typically comprise hundreds of econometrically derived equations to reflect the workings and inter-relationships of various aspects of the economy. A common procedure involves the construction of a "base case" which reflects what is expected in the economy in the absence of a major policy change. The possible policy change is then applied to the model through appropriate adjustments to the base case, and the resulting differences in effects or impacts are then compared.

In the case of using such models to estimate the macroeconomic effects of long distance competition, an overall aggregate price index reflecting the effects of competitive entry would usually be calculated and used as an input to the model. If, on the one hand, the aggregate price level used in the model were lower than that used in the base case without competition, then positive macroeconomic results could be expected. If, on the other hand, the aggregate price level were higher, then negative macroeconomic results could generally be expected.

The calculation of changes to the aggregate price level for telephone service is a complex matter which should take into account the rate structure differences that would be likely to occur with competition, productivity effects that would have an impact on both long distance and local services, changes due to the nature of economies of scale and scope, stimulation of demand that may affect revenues and, hence, rates, etc. As was noted in earlier sections of this chapter, the available information is inconclusive as to the relationship between competition and those factors that could affect the aggregate price level. It is therefore not possible at this time to indicate whether or not competition would lead to positive or negative macroeconomic benefits.

There are, however, a number of Canadian and U.S. studies which have considered the effects of restructuring telecommunications rates, either by lowering long distance rates or by combining long distance rate reductions with local rate increases, leaving the telephone companies unchanged as to overall profitability (commonly referred to as rate rebalancing). It is intuitively obvious that long distance rate reductions would have positive economic effects; these flow from the fact that consumers would be able to buy the product or service at a lower price. It is not, however, as obvious that positive effects would occur when long distance rates are lowered while local rates are simultaneously increased. However, in the case of local service, despite increased prices, demand would be only slightly dampened due to its highly inelastic nature. And in the long distance market, demand would be stimulated by the price reduction since it is relatively more elastic. This would in general lead to an overall reduction in the aggregate price level of telecommunications services. The net result would be stimulation in telecommunications services demand and (indirectly) in the economy in general.

To the extent that competition would lead to rate restructuring, these studies provide an important indication of the macroeconomic impacts of competition. It

should be emphasized, however, that the studies reviewed indicate the effects to be achieved by rate restructuring only – something that could be achieved even in the absence of competitive entry. They do not necessarily include the various other factors that could affect the aggregate price level in a competitive environment.

4.4.1.2 Review of Macroeconomic Studies from the Literature

Macroeconomic studies have been conducted over the past several years, both in Canada and the U.S., to predict the macroeconomic effects of lower long distance rates or rate rebalancing. Exhibit 4–10 summarizes the results of six such Canadian studies, using models of the Canadian economy developed by Informetrica Ltd., Data Resources Inc. (DRI) of Canada and Wharton Econometric Forecasting Associates.[87] As illustrated in the exhibit, generally small but positive effects with respect to gross national product (GNP) or gross domestic product (GDP), employment and government finances, and other indicators not displayed, can be expected. Inflation would be somewhat reduced in the years immediately following the rate changes, although DRI indicates that inflation would be slightly up in the later phases of its ten–year output simulation.

The modelling results vary in two particular areas of interest: first, the values of the long distance price elasticity of demand that were used and, second, whether or not rate rebalancing was assumed. The price elasticity of demand used in the Informetrica and Wharton studies was –0.4, whereas DRI used elasticities in the range of –1.1 (business) and –1.5 (residential). The latter two estimates are considerably outside the range of values considered most likely by Globerman (Section 4.3.3). Rate rebalancing was not considered in the Informetrica (1986) and DRI studies, but it was modelled in the remaining three. Despite these seemingly radical differences in specification, the results are reasonably similar– that is, overall economic benefits would flow from rate rebalancing or long distance rate reductions, diminished somewhat by lower assumptions regarding the price elasticity of demand.

Macroeconomic studies of telephone service rate restructuring which are of relevance to Canada have also been conducted in the United States. In 1983,

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[87] Informetrica Ltd.,"The Macroeconomic Impacts of Bells' Rate Restructuring Proposal," study commissioned by Bell Canada, 1984; Informetrica Ltd. with Johnson Associates, in D.A. Ford and Associates, "The Impacts of International Competition on the Canadian Telecommunications Industry and Its Users," study jointly sponsored by the Governments of Alberta, Manitoba, New Brunswick, Newfoundland, Nova Scotia, Ontario, Prince Edward Island, Québec, Saskatchewan and Canada, 1986; Informetrica Ltd., "Macroeconomic Impacts of Rate Rebalancing," study commissioned by Bell Canada, 1987; Data Resources (DRI) of Canada, "The Macroeconomic Impact of Reducing Long–Distance Telephone Rates," study commissioned by CNCP Telecommunications, 1985; DRI, "The Macroeconomic and Regional Impacts of Reducing Long–Distance Telephone Rates," study commissioned by CNCP, 1986; Wharton Econometric Forcasting Associates, "The Effects of Rate Rebalancing on the Canadian Economy," study commissioned by Bell Canada, 1987.

EXHIBIT 4-10

Some Results from Canadian Macroeconomic Model Runs

MODEL RUN	RATE/DEMAND ELASTICITY INPUTS	GROSS PRODUCT	EMPLOYMENT	AGGREGATE PRICE INDEX/INDICES	OTHER
INFORMETRICA (1984)	"Rebalancing" which lowered aggregate telecom price 10.5%. Long distance elasticity -0.4.	GNP up $2b ($1983) in fifth year. (.44%)	Up 12,000 in fifth year. (.10%)	Generally down	Government net revenues up $885 million (current dollars) in fifth year.
INFORMETRICA (1986)	Business telecom rates changed by average -13%, not "rebalanced." Low elasticity inferred.	GDP up $330m ($1971) in fifth year. (.21%)	Up 22,000 in fifth year. (.17%)	Generally down	Favourable provincial output effects in all provinces.
INFORMETRICA (1987)	"Rebalancing" proposed by Bell to CRTC in 1987 modelled. Elasticity -0.4.	GNP up $670m ($1986) over three years.	Average annual employment up about 1,900 over three years.	Generally down	Government net revenues up about $235 million over three years.
DRI (1985)	15% reduction in long distance rates, not "rebalanced." Elasticities -1.1 (business), -1.5 (residential).	GNP up $1.8b ($1971) over five years. (.2 - .3%)	Average annual employment up 17,000 over five years. (.1 - .2%)	Generally down	Effects generally more than doubled with 30% rate decrease.
DRI (1986)	26.3% overall long distance rate reduction, not "rebalanced." Elasticities -1.1 (business), -1.5 (residential).	GNP up $675m ($1971) in tenth year. (.3%)	Employment up 14,000 in tenth year. (.1%)	Initially down, tending slightly up in later phases of ten-year output stimulation.	Regional model showed positive regional output effects for all (seven) regions.
WHARTON (1987)	"Rebalancing" proposed by Bell to CRTC in 1987 modelled. Elasticity -0.4.	GDP up $435m ($1986) over three years.	Average annual employment up 2,100 over three years.	Generally down	Government net revenues higher.

SOURCES: Data Resources, Inc. (DRI) of Canada, "The Macroeconomic Impact of Reducing Long-Distance Telephone Rates," 1985; DRI, "The Macroeconomic and Regional Impacts of Reducing Long-Distance Telephone Rates," 1986; Informetrica Ltd., "The Macroeconomic Impacts of Bell's Rate Restructuring Proposal," 1984; Informetrica Ltd. with Johnson Associates, in D.A. Ford and Associates, "The Impacts of International Competition on the Canadian Telecommunications Industry and Its Users," 1986; Informetrica Ltd., "Macroeconomic Impacts of Rate Rebalancing," 1987; Wharton Econometric Forecasting Associates, "The Effects of Rate Rebalancing on the Canadian Economy," 1987.

Wharton Econometric Forecasting Associates used its model of the U.S. economy to ascertain the effects of long distance rate reductions offset by increases in flat monthly charges designed to leave suppliers revenue neutral.[88] A subsequent model assumed a 10 per cent decrease in U.S. long distance rates but no increase in local rates.[89] Like the Canadian results, these modelling exercises predicted positive economic impacts. A retrospective model run conducted in 1986 explored the effects of the actual rate restructuring that occurred in the U.S. over the 1984–1986 period.[90] Greater benefits were estimated in both real and monetary terms – with higher output and lower inflation – than if telephone service rate changes had not occurred.

Members of the Task Force express caution that the results of these studies should be used in cognizance of the underlying assumptions.

4.5 Summary of Available Information

Much of the information obtained by the Task Force regarding various technical, operational and economic factors is not conclusive as to whether or not public long-distance telephone service should be provided on a monopoly versus a competitive basis. From a technical and operational perspective, the U.S experience appears to indicate that MTS/WATS competition in that country has resulted more in pricing variety than service innovation. While service innovation has certainly occurred, it cannot be conclusively linked to the existence of competition.

Information as to whether or not economies of scale and scope exist in the provision of public long-distance telephone service is inconclusive, except for the possible existence of scale economies in the transmission network. The impact of competition on productivity (cost per unit of output) in the provision of public long-distance telephone service is similarly inconclusive. More definitive information is, however, available regarding the costs of modifying the existing telephone network to provide competitors with switched access to the local exchange. Such costs range from zero to approximately $213 million, depending on the type of access and the number of communities involved. Ongoing costs of access are estimated at approximately $0.02 per minute at both the originating and terminating ends of a long distance call. Such costs, if found to be prohibitively high, could influence the nature of competitive entry.

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[88] Wharton Econometric Forecasting Associates, "Impact of the FCC Access Charge Plan on the U.S. Economy," study commissioned by AT&T, 1983.

[89] Wharton Econometric Forecasting Associates, "Impact of Regulation of the Long-Distance Telecommunications Market on the U.S. Economy," study commissioned by AT&T, 1984.

[90] Wharton Econometric Forecasting Associates, "Pricing Telecommunications Services: The Impact on the U.S. Economy of Subscriber Line Charges," study commissioned by AT&T, 1986.

The consultant retained by the Task Force found the price elasticity of demand, which measures the responsiveness of quantity demanded to changes in prices, holding all other factors constant, to be generally inelastic for public long-distance telephone service. Hence, to the extent that competition is associated with reduced long distance rates, overall (total market) revenues will likely decline. The Task Force notes that information has been presented for elasticity values that lie outside the most probable price elasticity range identified by the consultant. Such values include more inelastic and more elastic estimates, which would likely lead to further revenue decline or revenue increase, respectively.

The uncertainty regarding the link between long distance competition and various factors that may affect the aggregate price level for telephone service (economies of scale and scope, productivity, etc.) makes it impossible to determine the macroeconomic effects of competition in public long-distance telephone service. To the extent, however, that there was rate restructuring, as a result of competition or regulatory action - either lower long distance rates or long distance rate reductions together with offsetting local rate increases (leaving the telephone companies unchanged as to over profitability) - available studies suggest that modest but positive macroeconomic benefits would result.

5.0 THE NATURE OF COMPETITIVE ENTRY INTO THE LONG DISTANCE TELEPHONE SERVICE MARKET IN CANADA

This chapter outlines the main characteristics that could apply to a competitive environment in public long-distance telephone service in Canada. The competitive environment is examined in terms of potential competition models; the effect of competition on the universal availability of affordable telephone service; potential new entrants; and specific competitive scenarios regarding how competition could occur. This chapter also serves to introduce a number of concepts used in Chapter 6, which explores the financial impacts of competitive entry.

5.1 Competition Models

In this section, three general models describing blends of regulation and competition in the long distance market are considered. They range from an unregulated competition model to a fully regulated competition model. Also discussed is the dominant carrier regulation model. A central theme in each of these models is the degree of regulation or, conversely, market freedom that service providers would experience.

5.1.1 Unregulated Competitive Market Model

A completely unregulated long distance market represents a scenario at one end of the range. Regulation of remaining monopoly services would still be required as would careful monitoring to detect the incidence of cross-subsidy. This would require some means of separating the revenues and costs of each service, such as accounting or structural separation.

Competition theory indicates that, in an unregulated competitive market, prices are set and the firm produces at a level of output where price is equal to Long Run Average Cost, such that total costs are being recovered. This implies that, for each service being provided by a multi-product firm, there is a recognition of causal cost, and that the entire bundle of goods sold by the firm would have to be priced so as to recover total costs. In general, if a firm operating in a competitive environment were not recovering at least the causal costs of providing individual services, those services would cause the firm to lose money and it would cease to provide them.

In a regulated marketplace, prices are set by the regulator as opposed to the market and, on a service-by-service basis, individual service prices may not be set to equal causal costs. The entire bundle of goods that a firm produces, however, generally must be priced to recognize total cost. This is the situation today in the Canadian telephone industry in that the industry is regulated and some telephone services are not priced at the level of causal costs. Data from the CRTC Phase III Cost Inquiry indicate that, for example, for Bell Canada and B.C. Tel, monopoly long distance revenues are the principal contributors to the

recovery of the access cost category shortfall.[91] Similarly, the assumption underlying the financial modelling exercises discussed in Chapter 6 is that long distance services are currently priced above causal costs.

Thus, in opening the long distance market to competition – either full or partial – there would be pressure to move towards competitive market pricing (ignoring for the present the role of carrier contribution charges which will be discussed in section 5.2). The long-distance telephone service market would attract entrants and, if left unchecked, competition would result in a lowering of rates charged by existing service providers. This would cause pressure for increased rates for services presumed to be priced below causal costs, even though they are provided on a monopoly basis. It should be noted that these same effects could, in theory, be achieved by regulated price changes (such as through rate rebalancing).

The following discussion on telephone company rate responses to competition may also be applicable to other models of competition. Since it relates to general responses to competition, however, it is appropriately dealt with in the most competitive model available. At least two courses of action to adjust rates are open to telephone companies faced with either the prospect or the reality of long distance competition: rate restructuring to bring rates for individual major service categories in line with costs; and selective competitive rate responses. The following sections discuss potential telephone company rate actions in these two areas.

5.1.1.1 Incentives for Rate Restructuring

Telephone companies contend that rates for many of their services have been set using rating practices, including value-of-service pricing and route and company-wide price averaging, to promote universal service. As a result, they argue that rates for many services do not reflect their underlying costs.

Among the major disparities in price/cost relationships that may exist are: cost differentials in certain areas (urban/rural) and on certain routes (high-density/low-density and long versus short-haul) that are not reflected in prices as a consequence of, for example, rate grouping and route averaging; differences in rates for business and residential subscribers that are not justified by costs; and, most importantly, long distance services that are priced well above cost while local services (including subscriber access) are priced substantially below cost.

The telephone companies contend that by pricing some services well above their causal costs, artificial incentives for competitive entry are created. This not only creates opportunities for uneconomic entry but, in a competitive environment, it could result in cream-skimming in lucrative markets or on high-density routes (e.g., Québec City-Windsor, Calgary-Edmonton, Vancouver-Victoria), which might

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[91] Inquiry into Telecommunications Carriers' Costing and Accounting Procedures: Phase III – Costing of Existing Services, Telecom Decision CRTC 85-10, 25 June 1985; Bell Canada and B.C. Tel Phase III Results, September 1987.

lead to a rapid erosion in revenues used to contribute to the recovery of access costs.

5.1.1.2 Rate Restructuring

A specific form of rate restructuring, namely, rate rebalancing, has been proposed by some Canadian telephone companies. This proposal involves lowering long distance rates with a corresponding increase in local rates in a manner that would not change the net revenues accruing to the company. Rebalancing has been promoted as a tool to align the revenues of certain services, especially monopoly local and long distance services, closer to their costs. In response to competition, rebalancing can be viewed as a way to encourage efficient use of resources, discourage uneconomic entry and control the level of local rate increases on subscribers. Implicit in the concept of rebalancing is an assumption that long distance currently makes a significant contribution towards the recovery of subscriber access costs.

There are two basic approaches to rebalancing long distance and local service rates. The first approach, which has been proposed by Bell Canada, involves the recovery of subscriber access costs through local service rates. The second approach, the one that has been adopted by the FCC in the U.S., involves charging individual subscribers for access on a stand-alone basis.

As an alternative to, or in concert with, rebalancing long distance and local rates, telephone companies could try to recover lost revenues through other types of rate restructuring, such as increasing rates for bulk-discounted private line services. This would reduce opportunities for resale and consequent revenue erosion. It would also increase contribution from private line customers who are making relatively less contribution than MTS/WATS customers. In doing this, incentives for widespread bypass could, however, be created.

5.1.1.3 Competitive Rate Responses

Other approaches to more flexible pricing in response to competition include such measures as geographic deaveraging, rate unbundling, special sales promotions, volume discounts and the use of contractual arrangements rather than general tariffs. Essentially, each of these would permit the telephone companies the latitude to differentiate between customers or classes of customers within the constraint of cost-based pricing. Such a pricing structure would allow companies to compete for business on the basis of rates that reflect the actual costs of underlying facilities (technology). It would also allow them to offer services and contracts designed to meet the specific needs and budgets of particular customers.

Long distance services in Canada are generally priced independently of route - i.e., rates are route averaged. On high-density routes, current rates do not reflect either the economies of installing large-capacity facilities or the efficiencies associated with higher per-circuit traffic volumes.

To the extent that there are cost savings on higher density routes and given that rates are the same on all routes, competitors would have an incentive to enter the

long distance market on high-density rather than low-density routes. In the absence of a regulatory requirement for route averaging, telephone companies would have an incentive to respond by lowering rates on high-density routes in order to protect market share.

The review of the foreign experience with long distance competition (Chapter 3) indicates that this issue has been treated differently in various countries. In the United States, the FCC has adopted as a matter of policy an outright prohibition against geographic deaveraging of AT&T's interstate rates. The FCC has stipulated that AT&T must retain a broad nationally-averaged rate structure and that it must offer any special discount plans universally, not just in areas where competition has occurred. No such requirement exists for the non-dominant long distance carriers, but since these firms tend to be price followers, their rates generally reflect those of AT&T. The interconnected configuration of the long distance network in the U.S. also reduces the cost-related effects of actual traffic density over any single leg in the network of a given carrier.

In the United Kingdom, in contrast, British Telecom and Mercury both set prices on a high-density route basis. British Telecom routes that are selected as high-density bear a direct relation to the population being served; services are thus priced lower in large population centres than on low-volume routes. In most cases, the same high-density routes are also served by Mercury. British Telecom's licence contains an obligation to serve all routes; Mercury's licence contains no similar obligation, and it can therefore choose to provide service in areas where it believes it would be economically feasible to do so - e.g., on high-density routes.

Currently, telephone service pricing also embodies the concept of peak and off-peak pricing. The U.S. and U.K. experiences both illustrate that, whereas off-peak discounts continue to be offered after the introduction of long distance competition, such discounts are not as great with respect to peak period prices after competition. U.S evening and night rate reductions have been less than peak-time (day) rate reductions over the period 1984-1988. Similarly, British Telecom's "standard" and "cheap" rates have been generally increased more or reduced less than peak rates.

An expansion of discount plans is also related to the introduction of long distance competition. In the United States, a multitude of pricing packages aimed at attracting business customers have been developed. Such plans include services for small and medium-sized businesses for which no discount arrangements previously existed. Discount arrangements for high-use residential customers have also been developed. These generally depend on the degree of competition in a given market, the price elasticity of demand and the associated cost savings for target customer groups. Subscription-based discount packages are especially favoured by competitors since they lock customers to a particular supplier.

Current Canadian long distance rates are distance sensitive, reflecting both costs and value-of-service pricing. Under competition, the value-of-service component would be likely to play a less important role; the cost component would play the major role in setting rates. The U.S. experience indicates that a

restructuring of rates would be likely. Exhibit 5-1 compares current Bell Canada rates with equivalent AT&T interstate rates. AT&T rates are seen to be much flatter with respect to distance than Bell Canada's transCanada and Canada-U.S. rates; however, Bell Canada's intra-company rates are distance insensitive at very long distances.

A notable change in rate structures in the U.S. after competition was introduced involved the creation of federal Subscriber Line Charges (SLCs). As noted earlier, in 1983, the FCC established a mandatory SLC to be paid by all telephone service subscribers for access to the interstate long distance network. This charge recovers directly from subscribers a portion of non-traffic sensitive costs previously recovered from usage-sensitive interstate long distance charges. In Canada, given that the contribution from public switched services is generally higher than that for special services such as private line, the introduction of subscriber charges would reduce pricing differences between these two service categories.

5.1.1.4 Factors Affecting Competitors

Nordicity Group Ltd., Ottawa, conducted a study on behalf of the Task Force entitled "Market and Other Non-Price Factors Affecting Competition in Public Long Distance Telephone Service," to examine a number of factors related to the potential success of competitors. A major conclusion of the study is that without a price advantage, facilities-based carriers could not successfully enter the public long-distance telephone service market in Canada. In general, the consultant concluded that no combination of service features or other non-price benefits would enable facilities-based carriers to compete without a price advantage. However, the consultant notes that it may be possible for resellers, through the provision of specialty services to business clients, to obtain a small portion of the market without price discounts. In such cases, resellers would be able to serve niche markets and maintain low costs by leasing facilities rather than building their own networks.

Conversely, a price advantage would be required for facilities-based carriers to enter and survive, at least during the start-up period. Based on subscriber expectations, the consultant found that price reductions of at least 10 per cent, with minimal non-price impediments, would likely enable a new entrant to capture an appreciable market share. This is consistent with the U.S. experience where there is growing evidence that, but for the availability of discounted services, the internal cost structure of non-dominant long distance carriers might not have permitted either entry or the development of a consequential market share.[92]

The findings of the consultant that price reductions would be essential to successful entry and survival of competitors is of key importance to both potential new entrants and regulators. To offer price discounts, new entrants would need to achieve lower costs through operating more efficiently and/or regulators would need to allow contribution discounts. The consultant also found that the quality

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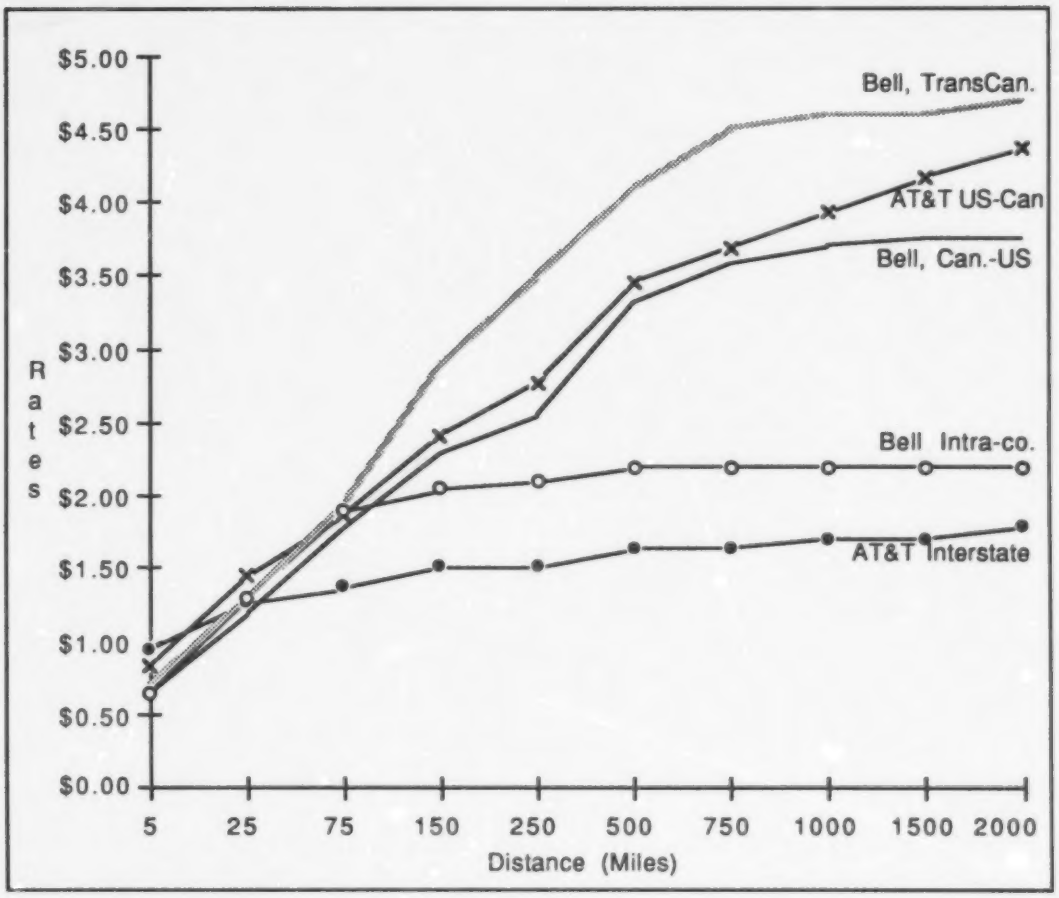
[92] Economics and Technology, Inc., study commissioned by the Task Force.

Exhibit 5-1

Distance Sensitivity of Current Canadian and U.S.
Directly Dialled Long Distance Rates *
(5-minute daytime call, Cdn. Dollars)



* Bell Intra-co. and TransCan. rates as at 1 April 1988; Bell Can.-US rates as at 1 July 1988; AT&T interstate rates as at 1 January 1988; AT&T US-Can. rates as at 15 April 1988. AT&T rates are restated in Canadian funds, $1 U.S. = $1.25 Cdn.

SOURCES: Bell Canada and AT&T tariffs.

of local carrier access, particularly the number of extra digits to be dialled, was the most important non-price factor to potential alternative carrier customers. Specifically, with lower quality access than that provided by the telephone companies, significant price discounts would be necessary to attract new entrants. With equal access, price discounts would be less important, and quality and other non-price factors would become more important to competitors.

The Nordicity study further attempted to determine the significance of non-price factors on the market share and survivability of new entrants. The consultant used various primary and secondary information sources, including a telephone survey of business subscribers, focus group meetings with business subscribers in three regions across Canada, market research data and interviews with five Canadian telephone companies as well as CNCP, U.S. suppliers and industry experts. The methodology focused on identifying and assessing the significance of non-price factors to Canadian subscribers.

In respect to the general nature of the MTS/WATS product, the consultant concluded that both from a price and a non-price standpoint, it is not a homogeneous product. In other words, suppliers may differentiate the product in a variety of ways. With respect to price, for example, competitors may differentiate on the basis of unit pricing intervals, discounts or the distance sensitivity of rates. Non-price differentiation could occur through the offering of such features as call detail recording and voice messaging. Additionally, transmission quality and quality of carrier access to the competitor (i.e., the number of digits dialled) could be used to differentiate the services of new entrants. The consultant also found that subscribers would be sensitive to the identity of the service provider. Some subscribers would prefer the convenience of one-stop shopping with a single carrier. Others perceived a greater risk in obtaining MTS/WATS from a new small reseller. Subscribers would not, however, be likely to associate any increased risk with large and well known alternative service providers. Hence, MTS/WATS cannot be viewed as a uniform commodity that could be purchased in essentially the same form from all competitors; specific characteristics of both the service offered and the supplier would affect customer choice.

The relative significance of price versus various non-price factors to business subscribers, as determined by the study, is indicated in Exhibit 5-2 in terms of perceived benefits and costs.[93] The exhibit indicates, first, that lower prices are perceived to be the most important benefit of competition and, secondly, that non-price benefits do not outweigh the perceived costs of using alternative long distance suppliers. (A similar conclusion was reached for residence subscribers.) Non-price factors may add to or detract from the service offerings of new entrants, even in the presence of price discounts. They are important to subscribers in determining the relative merits of competing vendors and, hence, would be important to competitors in capturing market share. As the exhibit illustrates, the primary non-price factors that could have a negative impact on entry into the

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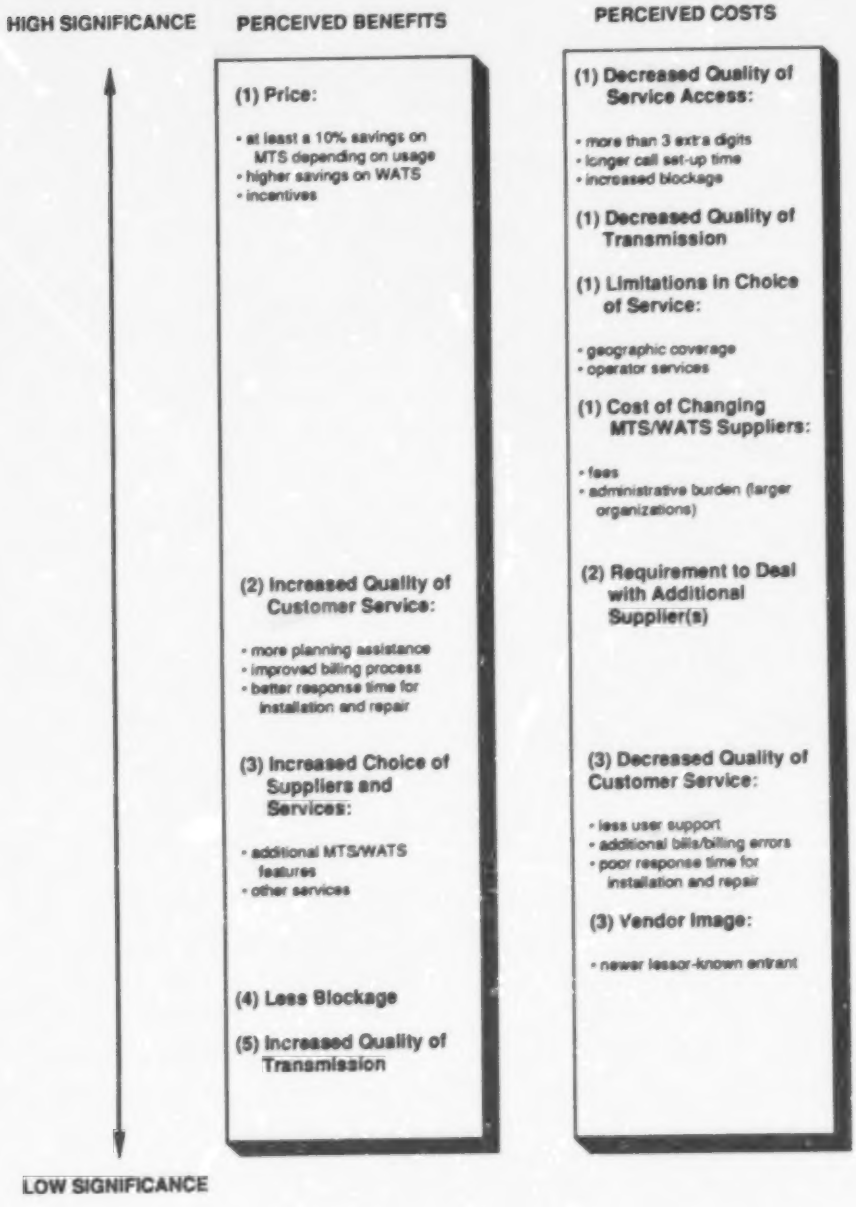
[93] A similar exhibit is contained in Nordicity Group Ltd., study commissioned by the Task Force (Exhibit 4.2), with respect to residential subscribers.

Exhibit 5-2

Relative Importance of Factors to Business Users



SOURCE: Nordicity Group Ltd., study commissioned by the Task Force, Exhibit 4-1.

business market segment include: limitations on the quality of access to competitors (the requirement to dial more than three extra digits); transmission quality; limitations on terminating geographic coverage or service features; and the costs of changing long distance suppliers. The primary non-price benefits of competition are perceived to be increased service options, quality of customer service, and choice of service suppliers and services. Non-price factors are apparently more important to business than to residential subscribers. In fact, for residential subscribers, the consultant notes that while non-price factors may be important, particularly in relation to quality of service, the choice of long distance suppliers would rest primarily on price.

5.1.2 Dominant Carrier Regulation Model

Once a market is opened to competition, two basic issues arise with respect to the continuation of rate-of-return regulation. On the one hand, new entrants are unlikely to be dominant in a previously monopolized market and might not be able to exercise market power or sustain supranormal or predatory prices. Consequently, it is arguable whether the application of traditional public utility regulation to new entrants would serve a useful purpose. On the other hand, with respect to dominant carriers, either their activities in monopoly and competitive markets or their dominant market share might give rise to concerns of cross-subsidy, overcharging, predatory activities and service availability.

5.1.2.1 Background

Canadian experience with dominant carrier regulation has been limited. With respect to federally regulated carriers, CNCP applied to the CRTC on September 10, 1986 for exemption from certain regulatory requirements.[94] In support of its application, CNCP maintained that there was no longer a need for its prices to be regulated in the traditional manner. CNCP submitted that its share of the total communications market was small and that it had no monopoly power in any submarket. In addition, many of its competitors were unregulated in respect of their competitive service offerings. Furthermore, since its services lacked the capacity to generate cross-subsidies, it argued that the public interest did not require detailed costing requirements.

The CRTC noted the concern of some interveners, particularly Bell Canada and B.C. Tel, regarding the potential unfairness if CNCP were to be subject to different regulatory requirements than other federally regulated carriers. However, the CRTC determined that Bell Canada and B.C. Tel operate under substantially different circumstances than CNCP, and it considered that different regulatory regimes for carriers in different circumstances were not necessarily inappropriate.

The CRTC concluded that CNCP did not have the ability to engage in material cross-subsidization among its various service offerings and that it should there-

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[94] CNCP Telecommunications - Application for Exemption from Certain Regulatory Requirements, CRTC Telecom Public Notice 1986-64, 24 October 1986.

fore be exempted from detailed costing requirements.[95] The CRTC further concluded that CNCP faced sufficient competition in all areas of its business to make it unlikely that it could raise prices to any significant degree without losing business and, consequently, that the terms and conditions, including prices, associated with most CNCP services need not be subject to regulatory approval. The legality of the CRTC decision has been challenged by parties claiming that the CRTC does not have the power to forbear from requiring advance approval of CNCP tariffs.[96]

The other major CRTC experience with detariffing regulated services arose concerning the provision of cellular radio telephone service. The CRTC determined that Cantel and the cellular radio affiliates of any federally regulated telephone companies would not be required to file tariffs for the provision of cellular service.[97] In the case of telephone company affiliates, the CRTC's decision not to require the filing of tariffs was conditional on there being adequate safeguards in place to ensure that cellular activities were conducted at arm's length from (and were not cross-subsidized by) regulated telephone company activities.

Subsequent to that determination, B.C. Tel requested the CRTC to forbear from tariff regulation of its discretionary radio paging and land mobile radio-telephone services, in addition to its unregulated cellular services.[98] B.C. Tel argued that such forbearance would be necessary if the company were to be able to compete on an equal footing with unregulated competitors in a market that it did not dominate. B.C. Tel also argued that its accounting separation arrangements would allow the CRTC to determine that there was no cross-subsidy from regulated activities.

The CRTC, in denying the application, stated that the approach proposed by B.C. Tel might not be adequate to ensure that cross-subsidization would not occur.[99] Moreover, concern was expressed that the proposed approach was not adequate to ensure that B.C. Tel would not grant itself an undue competitive preference or advantage with respect to the offering of radio paging and mobile

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[95] CNCP Telecommunications - Application for Exemption from Certain Regulatory Requirements, Telecom Decision CRTC 87-12, 22 September 1987.

[96] Telecommunications Workers' Union v. Canadian Radio-television and Telecommunications Commission and CNCP Telecommunications. The case was heard by the Federal Court of Appeal on 7 September 1988, and judgement was then reserved by the Court.

[97] Cellular Radio Service, CRTC Telecom Public Notice 1984-55, 25 October 1984.

[98] British Columbia Telephone Co., "Re: B.C. Tel's Portable Communications Division," Submission in response to CRTC Telecom Public Notice 1984-55, 25 June 1985.

[99] British Columbia Telephone Company - Portable Communications Division, Telecom Decision CRTC 85-15, 7 August 1985.

radio telephone services. This would have been made possible by virtue of the company's monopoly position with respect to services that provide telephone access to radio services.

The FCC's Competitive Carrier Rulemaking is also instructive with regard to the rationale for dominant versus non-dominant carrier regulation.[100] The underlying philosophy of the FCC has been that where service providers lack market power (i.e., are unable to establish and maintain rates significantly above or below market price), market forces can be relied upon to protect the public against unreasonably high rates or unjust discrimination.

At the same time, the FCC has also retained greater levels of regulatory supervision for dominant carriers. Dominant carriers are considered to be those providers able to exercise market power (e.g., the ability to set prices so as to earn supranormal profits, engage in predatory pricing or price discrimination). The ability to engage in predatory or discriminatory pricing was seen as arising from factors such as the ability to recover losses from monopoly services (cross-subsidization from local services).

The FCC's Competitive Carrier proceeding has resulted in forbearance from filing tariffs or streamlined regulation (e.g., the onus of proof is on complainants to justify any particular regulatory scrutiny) of all domestic competitors, be they facilities based or resellers. Virtually all these competitors, including long distance carriers (except AT&T) and domestic satellite service providers, are now subject to regulatory forbearance. AT&T, due to its continued dominance in the U.S. long distance market, and the BOCs, due to their local monopolies, remain subject to full rate-of-return regulation.

5.1.2.2 Exit, Entry and Quality of Service

In addition to considerations of rate regulation and limits on allowable rate of return, the issues of exit and entry criteria, obligation to serve and quality of service must also be addressed. Obligation to serve will also be discussed in relation to universality goals, but it is worth noting that an obligation to serve may also imply restrictions on the dominant carrier's ability to exit or limit its involvement in the long distance market. In order to meet certain objectives relating to non-discriminatory pricing policies, it may be necessary to continue route and rate-averaging practices. If competitors were not subject to similar restrictions, they would enjoy a competitive advantage, particularly if they could select only certain routes to serve. This might lead to pressures for rate deaveraging with consequential price increases on routes not subject to competition. Competitors would not necessarily be subject to the same exit criteria, although they could be required to provide service on equal terms to any customer within a region or on a route served by them.

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[100] FCC, CC Docket 79-252, "In the Matter of Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorizations Therefore," Notice of Inquiry and Proposed Rulemaking (the Competitive Carrier Rulemaking), 77 FCC 2d 308 (1979).

Entry conditions, however, are more problematic since several factors come into play. For example, as previously noted, the extent to which competitors are required to pay contribution charges (relative to existing carriers) constitutes an important condition of entry. Other factors that should be considered include: (a) the obligation to meet minimum levels of service quality (the requirements for competitors would not necessarily be to the same standards as for the dominant carrier); (b) the offering of services equally to parties in its serving area; and (c) uniform pricing. A licensing regime to limit entry could, as an alternative to full scale regulation of new entrants, be used to set out the conditions under which they would be allowed to operate. A licensing renewal process could provide a degree of security in ensuring that those conditions were met.

In the absence of a high degree of competition, regulators might continue to impose quality of service standards, in addition to rate regulation, for the dominant carrier with respect to long distance services. To the extent to which the market became competitive, quality of service would be one of the factors forming a basis for attracting customers. However, to the extent that not all geographic areas would attract competitors, continued regulatory monitoring of the dominant carrier could be required.

5.1.2.3 Impacts of Competition on Service Provision

Many of the impacts of long distance competition are dependent on the regulatory structure that accompanies competitive entry. The impacts on service provision, particularly in rural and remote areas, is a case in point.

As noted in Chapter 3, U.S. federal policy and regulatory decisions, including those of the courts, have promoted long distance competition principally on intercity routes, while maintaining monopoly status with full economic regulation in local service areas. A number of factors in the design of the U.S. competitive environment have mitigated serious detrimental impacts from competition on service provision. First, the FCC has imposed conditions on AT&T, the dominant carrier, making it the service provider of last resort, and requiring that it maintain price averaging for all services and pass on to its subscribers the cost savings resulting from the transfer of non-traffic sensitive costs from interstate long distance service. Second, while additional one-time costs were incurred to provide equal access, overall the costs confronting local telephone companies have not increased significantly, principally because U.S. regulatory policy has endeavoured to insulate these carriers from revenue shortfalls under the changing regime. When competition was introduced at the interstate level, interstate revenues previously flowing to the local telephone companies under the Separations and Division of Revenues processes generally continued to flow to the same local telephone companies through the federal access charge mechanism. Third, the LATA market structure and the requirement for local telephone companies to provide equal access throughout each LATA have made the benefits of interstate competition available to subscribers in both urban and rural areas, not just those in large population centres. Fourth, through the Universal Service Fund, the FCC has made special arrangements to compensate local carriers serving areas where costs are considerably higher than average. Fifth, the FCC has crea-

ted programs to assist states in funding lifeline services. Finally, certain of the above approaches have also been adopted at the state level.

From the subscriber's perspective, the industry restructuring in the U.S. has had the effect of shifting revenue requirements from long distance services to subscriber line charges. As a result, even in regions where there is little or no MTS/WATS competition, subscribers have ended up paying higher flat monthly charges, but they have also had the opportunity to benefit from lower interstate and, more recently, lower intrastate rates.

Overall, the U.S. appears to have designed a system in which subscribers can potentially benefit from long distance competition while limiting negative impacts on the provision of local telephone service. Although the extent to which measures such as the Universal Service Fund and support for lifeline services have been factors is not known, telephone penetration has increased in recent years.

Service to rural and remote areas has also been maintained in part because of the specific delineation of LATA boundaries and the provision that competitors need only interconnect at one point in a given LATA to gain access to all subscribers in the LATA. Critical to effective rural and remote service provision and network development is the question of where interconnection points are located and how long distance carriers compensate local telephone companies for carrying long distance traffic to and from these points. The traffic sensitive component of carrier access charges contains a distance component which does not fully reflect sensitivity to the distance between the originating or terminating point of a call and a competitor's point of presence. This encourages long distance carriers to establish a minimum number of points of presence in each LATA and to make connection to their customers through the facilities of the local telephone company rather than through direct lines which allow them to bypass the local telephone company. It also encourages long distance carriers to offer the same rates for their services to all subscribers within each LATA. The FCC has required AT&T to maintain rate-averaged tariffs, and other long distance carriers have tended to rate average as well.

As noted above, several states have adopted LATA-like models for long distance competition within their respective jurisdictions. In states such as Illinois, however, where less stringent conditions have been established for MTS/WATS competition, urban subscribers benefit from more services and lower intrastate rates than suburban or rural subscribers. Business customers, particularly large subscribers, have witnessed substantial growth in the variety of services and pricing options. Illinois Bell, that state's major telephone company, has restructured its existing services to incorporate competitive pricing features. It has also introduced new digital private line services, added private branch exchange-like enhancements to its Centrex services and greatly expanded its variety of bulk-rated long distance services. Residential customers in Illinois have experienced fewer changes. All residential subscribers can select from among several long distances carriers providing interLATA services, and residential customers in the Chicago Market Service Area (an area equivalent to a LATA as defined by the Illinois Commerce Commission) have experienced substantial rate reductions. However, Illinois Bell's intraLATA long distance rates

for the non-Chicago LATAs have not changed since divestiture, so that customers in the less urban parts of the state pay more for long distance calling than those in the Chicago metropolitan area.

Likewise, in the U.K., British Telecom is the service provider of last resort and is required to average rates, but there is no equivalent to the LATA structure. Mercury is allowed to compete in local and long distance markets of its choosing without any requirement to serve less viable areas. Large subscribers in the cities are thus offered competitive rates which are not available to rural and small-town subscribers outside some 70 access areas served by Mercury. British Telecom retains the responsibility to provide both long distance and local service to all customers.

5.1.3 Alternative Regulatory Arrangements for Dominant Carriers

When rate-of-return regulation of the dominant carrier is carried over into a competitive environment, a number of concerns arise. Among these is the need to ensure that the regulated firm does not cross-subsidize competitive activities with revenues earned from monopoly services. Furthermore, if rate regulation is maintained in a competitive environment, then the firm's ability to react to market conditions could be limited. This problem would be compounded if competitors were able to use the regulatory process to hamper the responsiveness of the dominant carrier.

A number of alternatives have been proposed that attempt to remedy perceived flaws in the current regulatory environment, certain of which may also be relevant to the aforementioned concerns. Three alternatives are discussed below, namely, price caps, social contract and incentive-based regulation. A principal aim of each of these alternatives is to allow the regulated firm the flexibility to improve its profitability while at the same time improving the consumer's position through lower prices and increased responsiveness. A full analysis of the advantages and disadvantages of each alternative would be required before their utility in a Canadian environment could be considered.

Price cap regulation basically limits the extent of price increases on services after accounting for inflation and expected productivity gains. The firm is allowed to keep all or part of the profits earned while adhering to these pricing limitations. Under a social contract approach, the telephone company would limit local rate increases in return for reduced regulation of other services such as long distance. Incentive-based regulation permits the regulated company to retain a portion of "extra" profits if they are made through socially and/or economically desirable activities. On the other hand, the company would not be permitted to retain "extra" profits if it used undesirable means to increase such profits.

5.1.4 Fully Regulated Market Model

As an alternative to complete deregulation or dominant carrier regulation, it would be possible to retain complete regulation for all market participants. However, information concerning the U.S. experience suggests that while this approach has been adopted in some states for intrastate long distance markets, it has been the

exception rather than the rule. A potential benefit of this approach is that it would involve minimal disruption of rates. Furthermore, regulatory control might be necessary both to ensure that competition is equitable, and to guard against possible adverse effects of competition (e.g., quality of service impacts in rural areas). On the negative side, the costs of regulation could increase (for both entrants and regulators), and strengthened incentives to reduce costs and innovate might not materialize to as great an extent as otherwise. A requirement that all rates be subject to prior notification and review would tend to inhibit rapid response to changing market conditions, including changes in customer preferences and meeting new customer needs.

Imposing rate-of-return regulation on all market participants implies that for companies with other (unregulated) lines of business, either a structural or accounting separation of services would be necessary. If accounting separation were to be adopted, a separate approach would need to be developed and applied for each entrant. This would add to their costs of doing business as well as increase the costs of the regulator. Ongoing regulatory monitoring would also be required. Alternatively, a structural separation approach could impose an initial cost burden on some entrants and might reduce the scope economies among services that induced a competitor to enter the market in the first place.

5.2 Competition and Universal Availability of Affordable Telephone Service

A major concern that has arisen in considering the issue of competition in public long-distance telephone service is its potential impact on the maintenance of universal availability of affordable telephone service. This concern arises because long distance service currently makes a significant contribution to the recovery of subscriber access costs that would otherwise need to be recovered through local rate increases. Bell Canada and B.C. Tel have conducted costing analyses which demonstrate that while both local and long distance services generate revenues above their associated expenses, the access cost category does not. In fact, the majority of the shortfall in access cost recovery is covered by the surplus derived from monopoly long distance revenues. To the extent that competition would lead to a reduction in net telephone company long distance revenues, local rate increases could thereby result.[101] Although increased local rates would not necessarily jeopardise universality, a number of approaches are considered below which could serve either to reduce any potential local rate increases or, alternatively, to alleviate their impact.

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[101] For example, in 1986, Bell Canada reported a shortfall in the access category of $2,232.1 million and a surplus of $1,811.1 million in the monopoly long distance category. B.C. Tel reported a similar shortfall of $447.5 million in the access category and a surplus of $441.7 million in the monopoly long distance category. The surplus in the local monopoly category was $528 million for Bell Canada and $48 million for B.C. Tel. See CRTC Cost Inquiry Phase III Results (footnote 91, supra).

5.2.1 Carrier Contribution Charges

One approach to maintaining universal service would be to retain the current level of contribution from long distance services by levying contribution charges on all competitors. The main reasons for imposing carrier contribution charges include:

(1) to maintain the flow of revenues towards the recovery of access and common costs, and thereby limit local rate impacts;

(2) to avoid uneconomic entry by requiring competitors to contribute to the recovery of subscriber access costs on equitable terms with the telephone companies, thereby diminishing opportunities to compete in providing services that are priced artificially high in order to provide revenues to support other services; and

(3) to allow an orderly and controlled rebalancing of rates where competition has been permitted before rates are aligned with costs.

Contribution payments can diminish competitive opportunities if they are set too high, since they represent a major cost factor over which a competitor has no control. Such costs are not related to the actual resources needed to provide a service, but rather are a payment to firms providing local telephone service as a substitute for the contributions from long distance traffic which would formerly have been carried solely by the telephone company.

In determining the appropriate level of contribution, a number of issues are likely to arise, including determining: (a) the extent of the required contribution from long distance service to access and common costs; (b) the services that should be required to contribute; and (c) the appropriate level of contribution discount, if any, for competitors.

Among other difficulties, the basis for determining and allocating contribution is problematic because of the lack of a generally accepted service costing methodology. Regardless of this problem, if telephone company long distance revenues are reduced without commensurate productivity improvements or cost reductions within the telephone company as a whole, as a result of long distance competition, or without expense reductions as a consequence of lower demand, a revenue shortfall will result which would need to be made up elsewhere (since long distance rate increases would only make such service more vulnerable).

Since the extent of the shortfall is subject to a variety of factors, including the market penetration of long distance competitors and revenue stimulation arising from lower prices and expense savings, the shortfall to be recovered may need to be adjusted periodically to reconcile estimated revenue erosion with actual losses. (Estimates of contribution shortfall for various competitive scenarios are presented in Chapter 6. Required contribution, in this case, is estimated through the revenue settlement procedures used by the telephone companies.)

After determining the absolute level of contribution payments that should be collected from long distance carriers, it would be necessary to determine which

types of services should contribute and the appropriate share to be allocated to competitors. With regard to which services should contribute, the following considerations are relevant:

(1) Public long-distance telephone service currently makes the largest contribution; therefore, services that erode this contribution could be considered.

(2) Interconnected private line services also use the public-switched local network and can be utilized either to provide MTS or as a substitute for MTS/WATS.

(3) Non-interconnected private line services do not require switched local access, but they could be configured to connect to local subscribers through PBX connections to the local exchange.

(4) Resellers that provide long distance telephone service utilize facilities (such as private lines) which make a lower level of contribution than the services (MTS/WATS) with which they are competing.

To the degree that substitutes for MTS/WATS are required to contribute, difficulties may arise in determining what constitutes a substitute service. For instance, foreign exchange service can be utilized as a substitute for MTS/WATS by subscribers with sufficient demand for calls to or from a particular local exchange. Such service currently provides a lower level of contribution than MTS/WATS. Other interconnected private line services provide for switched long distance traffic and can also be considered to be substitutes for MTS/WATS. WATS itself is primarily a discounted MTS service; the only dedicated aspect of WATS is a dedicated local access at the subscriber end. Finally, even dedicated private line services, at least for voice traffic, can be considered to be a substitute since traffic on these facilities may otherwise be carried on the public switched network.

If contribution were to be assessed on all services that use the local switched network, the price of interconnected private line services might need to be increased to reflect higher levels of contribution comparable to those of other long distance services. Such price increases could ultimately affect the viability of these services. Additionally, increases in interconnected private line rates relative to MTS/WATS would also reduce margins for resale.

In the event that interconnected private line services were required to pay an increased contribution, arguments might also arise to the effect that non-interconnected private line service should also be assessed higher contribution since traffic from one location to another could be redirected through a PBX into the local switched network.

In addition to the above considerations, the regulator is faced with determining the level of contribution to be paid by competitors. A major issue in this regard would be to determine whether contribution charges should be equivalent or involve some degree of discount for competitors. As noted in the discussion of price versus non-price factors (section 5.1.1.4), competitors will require a price

advantage to enter and survive, at least over the start-up period. Such a price advantage could result from discounted carrier access charges for competitors. The rationale for a contribution discount includes elements of market disadvantage, such as: (a) differences in geographic coverage where competition is not permitted throughout Canada; (b) differences in the quality of interconnection; and (c) advantages of the incumbency of dominant telephone companies resulting from previous monopoly conditions. As already noted (section 5.1.1), however, equal access is preferred by the marketplace and, if fully implemented, would remove the rationale for establishing discounts on the basis of lower quality access (e.g., two-stage dialling). In allowing discounted carrier access, regulators should be aware that unrecovered contribution shortfall must ultimately be recovered from other services.

Three possible mechanisms for recovering contribution shortfall from competitors are discussed below:

(1) Flat Monthly Rate Per Interconnection Facility

This method of contribution recovery would assess a flat monthly rate against each access line connecting the competitor's point of presence with the telephone company's central office. Flat rate charges can be estimated by dividing the telephone company contribution by the number of long distance connecting trunks. In the CRTC Interexchange Competition Proceeding, for example, Bell Canada estimated that its per-line contribution amounted to $1,200. B.C. Tel estimated its per-line contribution to be $1,500 by multiplying 9,000 minutes of use (FCC estimate) by a contribution rate per minute of $0.33 and dividing by 2 to take account of the fact that every call requires an interconnection facility at each end.[102]

A flat monthly rate eliminates the need to collect usage data on each interconnection facility. However, it requires an assumption to be made as to the minutes of use per line in order to derive approximate contribution. Since competitors' traffic per line may vary over time, by service type, by competitor and/or by competitor maturity, disputes regarding the fairness and reasonableness of this type of contribution charge mechanism could occur.

(2) Per-Minute Charge

This mechanism would recover contribution by a per-minute charge based on the actual amount of a competitor's traffic. It requires both a dependable method of measuring traffic and an acceptable figure for the per-minute contribution implicit in telephone companies' rates. For example, in the recent proceeding leading to a 20 per cent reduction in Bell Canada's intra-company MTS rates, that company estimated its MTS

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[102] Interexchange Competition and Related Issues, CRTC Telecom Public Notice 1984-6, 11 January 1984. Bell Canada, "Memorandum of Evidence," April 1984; British Columbia Telephone Company, "Memorandum of Evidence," 30 April 1984.

contribution after that reduction to be $0.23 per minute, down from $0.30 per minute.[103]

Both flat-rate and per-minute-of-use mechanisms are based on the use of switched access to originate and terminate traffic. Competitors would have an incentive to utilize carrier-provided dedicated access lines, particularly to high volume customers, in order to avoid contribution charges. If contribution is also assessed on carrier-provided dedicated facilities, private line customers might consider constructing their own facilities.

As presented above, the per-minute contribution charge would be applied uniformly to all minutes of use generated by the competitor. Variations on this somewhat simplified approach may be necessary, for instance:

- an originating versus terminating usage difference; originating usage could be charged at a lower rate than terminating usage as a means to discourage local bypass at the point where a customer could concentrate calling;

- contribution charge discounts dependent on time-of-day charges to recognize that evening and night discounted rates result in lower contribution payments by telephone companies;

- price caps to limit the contribution charge that could be collected from any single subscriber access line; this would recognize the fact that high-volume subscribers might otherwise contribute inordinately to recovering non-traffic sensitive costs;

- payment of a percentage of a particular company's average rate rather than a flat rate per minute; this would recognize the fact that a flat rate could result in short-haul calls providing little or no revenue for the competitor, while long-haul calls would provide disportionately small contributions; (this method of access charge payment was assumed in the financial modelling discussed in Chapter 6).

- establishment of contribution charges that vary by telephone company to recognize differing contribution made by long distance service or, alternatively, compensation of telephone companies for high contribution loss through a high-cost assistance fund.

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[103] Bell Canada - 1988 Revenue Requirement, Rate Rebalancing and Revenue Settlement Issues; British Columbia Telephone Company - Revisions to TransCanada Rate Schedule and Revenue Settlement Issues, Public Hearing CRTC, held at Hull, Québec, Transcript of Proceedings, Vol.12, 18 November 1987, Allan Walter (witness), p.2399.

(3) Percentage of Revenue

Contribution payments would be based on a percentage of total revenues earned by competitors. This approach avoids the need to measure minutes of use and negates the incentive to bypass switched local access. Unlike the other two approaches, it also recognizes the differences in peak and off-peak rates. It may, however, require forecasts of competitors' revenues to be submitted to a regulator and subjected to audit. This could present regulatory difficulties where competitors provide a range of services that would need to be disaggregated in order to determine the contribution requirement attributed to each.

A number of general issues arise out of the administration of these alternative contribution recovery mechanisms:

(1) Contribution mechanisms would be more complex to administer as the number of competitors increases, particularly resellers. If, for example, a flat-rate approach were employed, different rates might be appropriate for competitors with different traffic volumes per interconnection facility.

(2) Different contribution rates might be appropriate according to the route served. An average contribution would not reflect higher levels of contribution (embodied in telephone company rates) on lower cost routes that may also be the most lucrative.

(3) With a large number of entrants, particularly if those entrants were not regulated, contribution avoidance via local bypass, due to bankruptcy or by incorrect reporting could occur.

(4) With multiple entrants it would be more difficult to establish contribution charges that would limit local rate impacts to a fixed amount.

In assessing carrier contribution charges, it is worth noting that, ultimately, carriers will pass on the cost of these charges to their customers. Thus, any reduction in long distance rates that competitors could offer would be correspondingly limited. In fact, long distance rate reductions may only reflect the extent to which competition allows a reduction in the costs (excluding carrier access charges) of providing service. If carrier access charges were set to offset completely the reduction in net long distance revenues resulting from competition, then rate reductions in long distance service likely would not be possible.

Finally, it should be noted that carrier contribution charges are distinct from charges intended to recover the direct costs caused by connecting a competitive long distance carrier to the public switched network. Such direct costs of interconnection are comprised of two components: start-up and ongoing. Start-up modifications, once incurred, permit access for the initial and subsequent entrants. It is possible to recover start-up costs from the initial entrant or entrants. A problem would arise, however, in determining what to charge subsequent entrants and whether previous entrants should be reimbursed a portion of those costs.

Ongoing costs (amounting to about $0.02 per minute) are directly related to traffic volume and, hence, they are logically recoverable from each competitor on the basis of traffic carried. This implies that telephone companies would need to track the MTS/WATS traffic of competitors, either directly on a minute-by-minute basis or by some acceptable approximation thereof. For example, per-line charges could be based on estimated traffic minutes per interconnection facility.

5.2.2 Local Bypass to Avoid Contribution Charges

One of the consequences of imposing contribution charges on carriers is that an incentive would be created for carriers to avoid paying these charges. Avoidance could be accomplished by bypassing the local network.

Any access charge system that required and recovered contribution on the basis of a charge per switched access line or per minute of use of switched access basis would raise concerns about local bypass. Local bypass could involve the use of dedicated local facilities either to originate or terminate traffic, thus avoiding the public switched network. Because of the dispersion of terminating traffic as compared to the concentration of originating traffic, a procedure for recovering all contribution charges on the basis of terminating minutes of use could prove effective in discouraging local bypass. The FCC has adopted this approach to reduce the threat of local bypass (section 3.1.2).

There are numerous arrangements that enable local bypass: long distance carriers could provide dedicated access from their points of presence to customers; customers might provide their own private local facilities to reach the carrier's point of point of presence; or telephone companies might provide special private local access facilities, for example, to large customers.

Not only could local bypass reduce the level of revenues available for cross-subsidization purposes, it might also result in the construction and use of new facilities that would be more costly than existing facilities. In this sense, bypass might be uneconomic to society, even though it may be an economically preferable alternative for specific users.

Bypass can result from prices for long distance services being set well above the costs of providing such services. In order to reduce costs, Canada's largest telecommunications subscribers might establish private systems and abandon the public-switched telephone network. If large subscribers were to abandon the public telephone network, rates for the remaining subscribers would probably increase because fixed costs would be shared by fewer subscribers. In theory, a vicious spiral might result as more subscribers would be induced to abandon the telephone network leading to higher rates for remaining subscribers and subsequent repetition of the cycle.

As noted earlier, carrier contribution charges based on either a percentage of revenues or net revenues would not create the same incentive for bypass. However, the monitoring and verification of financial data for such a scheme would be onerous, particularly with respect to resellers.

5.2.3 Obligation to Serve

Public utility regulation is often viewed as involving an obligation on the part of the regulated monopoly to provide, within reason, service to all members of the public upon demand in exchange for a right to provide service free from competition at prices adequate to allow a reasonable return on investment. Where competition is permitted, an issue arises as to whether that obligation should be removed, shared or continued to be imposed on the incumbent, and generally dominant carrier, as a service provider of last resort.

In the case of competition in public long-distance telephone service, a number of considerations arise. First, assuming the continued monopoly provision of switched local telephone service, the obligation to provide such service would likely remain, with possible price adjustments being required to take account of any loss of revenue flow from long distance services. An additional issue would involve the obligation to provide or maintain existing levels of public long-distance telephone service and the appropriate rate levels. In this regard, it may be argued that the projected benefits of competition, such as improved service, choice and lower prices, would not arise to the same extent on less lucrative (often rural and remote) routes.

In a competitive environment, subscribers in low-density, high-cost areas could face two primary disadvantages: (a) lower quality of service resulting from decreases in maintenance and system investment and (b) higher MTS rates relative to subscribers along routes attractive to competitors. To mitigate such perceived disadvantages, the regulator could choose from a variety of options, including:

(1) Obliging facilities-based competitors to provide universally available telephone service via network extension or resale. All, as opposed to only some, subscribers would then be able to take advantage of competitor services. However, an obligation to extend networks on low-density routes could be perceived as requiring inefficient investment in, and duplication of, facilities. This difficulty could be reduced by a LATA-like approach.

(2) Existing telephone companies could be obliged to continue to provide service, but they could be compensated for being the service provider of last resort, perhaps through additional contribution from competitors.

5.2.4 Pricing Mechanisms to Minimize Adverse Effects on Users

The introduction of competition in the provision of public long-distance telephone service, as noted earlier, could result in higher charges for local telephone service (resulting from lower contribution from long distance services). This could have a negative impact on the affordability of telephone service for low-income households. Specifically, those households could be forced to alter their spending priorities to accommodate higher local telephone rates or they might choose to

"drop off" the telephone network.[104] This section identifies and describes possible pricing mechanisms aimed at minimizing the adverse effects of increased charges for local telephone service, so as to limit drop-off and promote the universal availability of affordable telephone service. It should be noted that the usefulness of these methods is not necessarily limited to an environment in which competition would be permitted.

5.2.4.1 Lifeline Services

Lifeline telephone service is generally defined as a local exchange service that provides selected subscriber groups, e.g., low income or elderly, with local telephone service at reduced rates. The term "lifeline" arises from the fact that many households, particularly those with elderly or disabled members, rely on telephone service as an essential communications link with the outside world and as a principal means of communicating with local authorities in emergency situations. Lifeline service is provided only for specific, targeted households which must meet qualifying criteria to be eligible for assistance. Generally, these are low-income households that do not currently have telephone service or which would be most likely to drop off the telephone network if local rates were increased.

To date, lifeline services have not been introduced in Canada. To the extent that under this type of offering one category of customers would be provided with local telephone service at a lower rate than that paid by the general body of subscribers, this pricing regime could be considered discriminatory. This might run contrary to the statutory requirement in some jurisdictions that tolls should be "just and reasonable," and that under substantially similar conditions with respect to traffic of the same description carried over the same route, the same rates should apply to all subscribers. For example, in Telecom Decision CRTC 81-15, the CRTC determined that an exemption from local rate increases for senior citizens who receive social assistance may be unjustly discriminatory.[105] Similarly, in Order No.59/86, the Manitoba Public Utilities Board rejected a lifeline proposal that would have introduced special rates for certain financially disadvantaged households because special tariffs would be discriminatory to other residential subscribers.[106]

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[104] Federal-Provincial Examination of Telecommunications Pricing and the Universal Availability of Affordable Telephone Service, Report to Ministers Responsible for Communications, October 1986. The Examination concluded that, following increases in local rates, drop-off levels would likely be minimal, even for rate increases as high as 100 per cent.

[105] Bell Canada - General Increase in Rates, Telecom Decision CRTC 81-15, 28 September 1981.

[106] Intervention by the Manitoba Anti-Poverty Organization and the Manitoba Society of Seniors, "In the Matter of the Manitoba Telephone System Application for an Order or Orders for the Application of (a) a general rate review increasing the majority of the Manitoba Telephone System's rates by approximately 3 per

Given the assumption that statutory problems can be overcome (for example, through amending the relevant laws), the design of lifeline services for Canada would require consideration of eligibility, funding, service features and rate levels. Eligibility for lifeline service could be tied to household income, but it might also include factors relating to age and physical handicaps. One form of lifeline service would be to provide 911 service on a jurisdiction-wide basis to otherwise dead phones. Generally, eligibility for standard government support programs or a specifically designed means test could determine eligibility for lifeline service. Funding could be achieved internally from revenues generated by the telephone companies and competing long distance carriers or through increases in local rates. In essence, the customers of both the telephone companies and competing carriers would fund lifeline services. To the extent that all subscribers benefit from maximizing access to the telephone network, it can be argued that all subscribers should bear the costs for the few who are disadvantaged.[107] Alternatively, governments could reimburse telephone companies for lost revenues such that taxpayers in general pay for the costs of providing services to the disadvantaged. Implementation of lifeline service would require that levels and rates of service be established on an individual telephone company basis. Lifeline service could be provided as single-line or multi-party service depending on the telephone company and geographic area. Additionally, appropriate charges for service would need to be fixed, either in relationship to an individual household's ability to pay or the general economic conditions of a particular community or geographic region.

5.2.4.2 Budget Services

Low-cost budget services are another means by which local telephone service could be provided to subscribers who could be adversely affected by increases in local rates. Because they are available on an optional basis to all subscribers, budget services are non-discriminatory and can therefore be offered by the telephone companies without creating the kinds of statutory problems often associated with providing lifeline services. However, because they are not targeted, budget services may not be an efficient way to ensure universal telephone service; subscribers who would otherwise pay regular rates could choose reduced rates for budget services while still utilizing the network almost as fully

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cent, (b) the confirmation of interim ex-parte orders issued by the Board between October 3, 1985 and December 31, 1985, and (c) the introduction of local gateway services and data communication service Trial," 27 March 1986, p.23.

[107] The logic underlying this type of proposal is that when a new subscriber joins the network, he or she makes the whole system slightly more valuable for each of the other subscribers since calling opportunities are greater for everyone. Thus, subsidization may be warranted, particularly for those subscribers who would otherwise not purchase access to the network. See Stephen C. Littlechild, "The Role of Consumption Externalities in the Pricing of Telephone Service," in Pricing in Regulated Industries: Theory and Application, edited by J.T. Wenders, Regulatory Matters Division, Mountain States Telephone and Telegraph, Denver, 1977.

as before. Although low-income subscribers would benefit from reduced rates for budget services, telephone companies could experience lower local revenues but equal or higher costs.

The CRTC has established two-party residential service as a budget service to promote universal access. With two-party service rates that are about 66 per cent of Bell Canada's and about 55 per cent of B.C. Tel's individual-line service rates, these companies' subscribers can choose two-party service as a means to mitigate the adverse effects of higher local charges. However, provincial regulatory boards generally view two-party service as a substandard service and consider the costs of providing such service, in a predominantly individual-line service environment, to exceed those associated with individual-line service. As such, they do not consider two-party service to be practical as a budget service.

Pay telephone service could also be used as a budget service. Prior to 1977, the Canadian Transport Commission encouraged lower priced pay telephone service in areas with low telephone penetration levels, even when anticipated revenues did not justify the provision of a pay telephone at a particular location. (This lower priced service has since been discontinued.)

Another approach to alleviating universality concerns would involve the provision of "local only" service. Because credit-related disconnection often results from high levels of long distance calling, direct dialled and operator-handled long distance calling could be blocked on designated lines under a flat-rate local tariff structure, as a step short of disconnection. A "local only" service option could be made available provided that subscribers paid their monthly bills regularly and agreed to make payment against their other outstanding charges. If necessary, a security deposit might also be required to restore long distance capability.

5.2.4.3 Local Measured Service

The introduction of Local Measured Service (LMS), by which a subscriber is charged for each call according to its duration, the distance involved and the time of day it is placed, could result in reduced telephone bills for households that do not make many calls. As an alternative to flat-rate billing for local service, LMS and low-use measured service programs, in particular, could be employed to mitigate adverse effects of increases in flat-rate local tariffs by allowing subscribers to choose the number of calls they deem to be essential and that they can afford.

Two types of low-use LMS programs could assist in maintaining or increasing telephone penetration levels. With the first, a customer would pay a flat-rate subscription charge which would entitle him or her to a certain number of local calls, after which charges would be levied for additional calls. In the United States, where measured service has been introduced in some regions, this type of LMS budget plan operates as a lifeline service option. Eligible households are allowed between 20 and 60 "free" calls per month. The second low-use LMS program would involve an optional monthly service cut-off point (with temporary disconnection) for subscribers who choose the monthly billing limit that they decide they can afford.

Some form of LMS is utilized in most industrialized countries outside North America. LMS has also been introduced, usually as an option but occasionally on a mandatory basis, in a number of U.S. states. LMS has not been introduced in Canada for several reasons, including: (a) the significant capital costs of installing equipment to measure local service, (b) operational cost increases associated with billing and public relations expenses, (c) widespread consumer opposition, and (d) because the overall impact on rates and economic efficiency has not yet been sufficiently explored.

Although LMS might be an effective mitigating mechanism to alleviate the adverse effects of higher flat-rate local tariffs for low-income subscribers, the costs and possible negative public reaction associated with it may make it infeasible in the Canadian context for the foreseeable future.

5.3 Potential New Entrants

The foreign experience with long distance competition, particularly in the United States and Japan, indicates that Canada could expect two types of new entrants into the MTS/WATS market: facilities-based carriers and resellers. In the first case, carriers would compete by using their own facilities; in the second, competitors would resell the facilities and services of existing carriers and new facilities-based entrants. In actual fact, the distinction between the two types of entrants would not necessarily be clear cut. Many entrants could be expected to utilize a mix of facilities-based and resold services. The following sections outline the general characteristics of these two types of entrants and, where possible, the possibilities of competitive entry by various existing carriers and other companies are examined.

5.3.1 Facilities-Based Carriers

Competition by facilities-based carriers in the public long-distance telephone service market would involve competitors using their own network facilities interconnected to the local exchanges of the telephone companies. Potential entrants discussed below include existing common carriers (B.C. Rail, Cantel, CNCP and Telesat, and to some extent, telephone company-affiliated cellular providers) and private network owners utilizing excess capacity on their private microwave systems (hydro and cable companies). Other potential entrants include new carriers who could invest in their own fibre optics or digital microwave systems, particularly on high-density intercity routes. While the term "facilities-based" entry suggests the use of alternatives to the telephone companies' long distance networks, such entry is likely to involve some degree of resale to extend the geographic coverage of competitors' networks or to handle peak capacity demands. Competitors may chose to lease facilities and/or services from the telephone companies either prior to or instead of building their own facilities.

In assessing the potential for successful entry by various types of facilities-based carriers, a number of factors could increase or decrease market opportunities:

(1) Competitors with existing network facilities may initially have a significant cost advantage relative to any new entrants that would be required to commit to large scale investment in new facilities.

(2) The technical sophistication of networks can also affect competitor viability.

(3) In the early stages of entry, existing common carriers would have an advantage over private network operators in that they would already have an established marketplace presence as well as operational and marketing expertise in providing service to the public.

(4) At present, private microwave licensees are restricted by the federal Department of Communications from selling excess capacity. In a competitive MTS/WATS environment, this restriction would need to be re-examined.

With regard to items 1 and 3 above, CNCP and Telesat are currently in the best position to enter the public long-distance telephone services market on a Canada-wide basis. The existence of installed facilities for all high-density routes in Canada and between Canada and the U.S. provides an important advantage relative to other potential entrants.

When comparing CNCP and Telesat, the former would seem to have certain advantages. CNCP would be particularly well situated to compete, since it already has a national microwave network as well as an expanding fibre optics system. Telesat, on the other hand, has the advantage of Canada-wide satellite coverage and associated distance insensitivity. It would, however, have to cope with the perceived disadvantage of a quarter-second transmission delay which might deter general customer acceptance. The preferred technologies of facilities-based carriers in the United States are microwave and fibre optics, with growing emphasis on the latter. In fact, all of the major U.S. long distance carriers have extensive fibre optic networks either in place or under development. In this respect, CNCP has kept pace with technological developments. Just the same, Telesat might become a major supplier to particular market segments, such as subscribers with particularly extensive distributed network requirements or those operating in remote areas.

While CNCP and Telesat are perhaps best situated to provide public long-distance telephone service on a national basis, opportunities are also available to other entrants on a regional or route-specific basis. For instance, Cantel and Bell Cellular currently carry a significant portion of cellular MTS traffic on their own private microwave networks within Bell Canada's serving area. While such facilities are limited in their geographic coverage, they connect cellular serving areas which are in Canada's largest metropolitan areas. Thus, cellular network facilities are well placed to serve high-density traffic routes. A possible entry scenario for Cantel, or potentially Bell Cellular and B.C. Cellular, would be as a facilities-based carrier on major traffic corridors with resale (e.g., WATS) to carry additional traffic to and from off-network locations.

B.C. Rail might also have certain advantages as a regional carrier. It would be in a good position to utilize its existing microwave network to provide public long-distance telephone service to subscribers in British Columbia and, through interconnection to Northwestel's facilities, to subscribers in Yukon and the western portion of Northwest Territories.

Although cable companies and cable consortia as well as hydro companies own extensive intercity private microwave facilities, as potential MTS/WATS market entrants they would not have the same degree of operating and marketing experience in providing telecommunications services as those companies already discussed. Moreover, some of their networks may be either somewhat obsolete or located along geographic corridors with low traffic demand. In those areas where their facilities are situated on high-density routes, opportunities could, however, be available for them to lease excess capacity to other carriers or to enter the public long-distance telephone business themselves.

In assessing competitive entry opportunities, the following additional considerations should be taken into account:

(1) The number of facilities-based entrants in the long distance market may be small. The U.S. experience demonstrates that the MTS/WATS marketplace might only be able to support a limited number of new entrants. In the smaller Canadian marketplace, unlimited entry might fragment the market, creating difficulties for any entrant to obtain sufficient market share to remain in operation over the long run. Market forces could be expected to reduce the number of new entrants to a sustainable level.

(2) The existence of a resale market could erode the market share of facilities-based competitors (or vice versa). Resale might make it difficult for competitors, particularly those who would need to construct new network facilities, to gain market share. As already noted, resale would be necessary to permit terrestrial facilities-based entrants to extend their network coverage or meet peak capacity demand, especially in the early stages of network development. It is also interesting to note that new facilities-based entrants like ALC's Allnet in the U.S. began as resellers. In fact, such carriers apparently found it more profitable to migrate from resale to facilities-based competition than to remain as pure resellers.

(3) Competitive opportunities could arise if established telephone company responses were constrained by obligations to route-average rates, or to maintain higher prices or higher contribution payments than those set for competitors. Such obligations would likely create entry opportunities on low-cost (high-density) routes.

(4) If the telephone companies were permitted to rebalance long distance and local rates prior to allowing competitive entry, and if they could have some degree of flexible pricing, entry opportunities would decrease.

(5) The prospects for competitors to compete successfully would be influenced by the specific regulatory regime adopted. (The impact of the regulatory environment is included in the discussion of the various competition models (section 5.1).)

A possibility in a relatively open competitive environment is the emergence, as in the United States, of regional wholesale service providers – i.e., carriers' carriers. As noted in the review of the U.S. experience, the carriers comprising the National Telecommunications Network lease facilities on a wholesale basis to long distance carriers which, in turn, provide services to the public. In this way, long distance carriers would not need to purchase and install their own networks. Instead, they could lease facilities from wholesale transmission service suppliers. They would thus be able to enter the long distance market without having to bear the capital costs or spend the time necessary to build or expand their transmission networks. In Canada, some private network owners (whether microwave or fibre optic) as well as Telesat Canada could choose to operate in this manner rather than building complete facilities to provide MTS/WATS directly to the public.

5.3.2. Resellers

5.3.2.1 The Nature of Resale Activity

Resale involves the provision of telephone service to the public using transmission facilities and/or services leased from facilities-based carriers (e.g., telephone companies, CNCP, Telesat). The most commonly discussed type of resale to provide public long-distance telephone service involves arbitrage opportunities arising out of price differentials between bulk discount services (including WATS and private line services) provided by the telephone companies and higher priced MTS service. A typical resale opportunity would involve the purchase of bulk-rated services for resale as MTS at a discount relative to the telephone company's MTS rates. Additional opportunities to discount relative to the MTS rates of the telephone companies arise where the bulk-rated services of other carriers (e.g., CNCP, Telesat) are priced even lower than comparable telephone company services.

Resale (to provide non-MTS/WATS services) is still relatively new in Canada; the discussion that follows respecting resale to provide MTS/WATS will therefore focus on some of the general characteristics of potential resellers and the market environment they would face rather than speculating on which existing companies might become MTS/WATS resellers. From the foreign experience it is clear that a large number of resellers would consider entering the market under the present pricing structure for long distance services. Whether or not they could maintain a market presence, where they would operate and in what form remain open questions.

5.3.2.2 Resellers' Cost Structure and Viability

Reseller costs would be made up primarily of four components: (a) the price paid for leased facilities; (b) switching equipment; (c) operations and marketing/advertising; and (d) administrative overhead. Leased facilities comprise a major cost for the reseller, while at the same time providing the principal means for profit.

For example, in a study done for the CRTC during the Interexchange Competition Proceeding,[108] monthly lease costs for long distance facilities were estimated to range from approximately 33 per cent of total revenues for a large-scale reseller to approximately 65 per cent of total revenues for a small reseller. Monthly switching costs were in the order of 1 per cent of total revenues. Remaining monthly expenses, which included operations and marketing/advertising and overhead, ranged from approximately 25 per cent for a large-scale reseller to approximately 46 per cent of the small reseller's revenues. In that study, the costs incurred by a small reseller were predicted to exceed revenues, whereas larger resellers were expected to generate substantial profits.

External factors could also have considerable impact on a reseller's viability. The most significant of these would be rate restructuring as a consequence of either competitive responses by the telephone companies or regulatory actions to bring rates more in line with the costs of service provision. Rate restructuring could take the form, for example, of reductions to MTS/WATS rates without a commensurate decrease in other service rates; this would result in the reduction of price differentials between MTS/WATS and discounted private line services. Alternatively, rate restructuring could occur by increasing the price of discounted services relative to that of MTS or MTS/WATS or, more generally, by rebalancing local and long distance rates. Such rate restructuring would likely reduce price differentials between MTS/WATS and discounted services upon which resale depends. Hence, resale entrants would be in the anomalous position of depending for their viability on the rate structures of those companies against which they would be competing. In addition, regulators might require resellers to compensate telephone companies, in whole or in part, for the lost contribution which public long-distance telephone service currently makes to the recovery of subscriber access costs. While this would have the effect of reducing the need to adjust rate relationships, it would, particularly at high levels of contribution, remove much of the opportunity for resale to provide MTS/WATS.

While a decrease in price differentials for long distance services provided by the telephone companies would reduce opportunities for resale, it would not necessarily remove all incentives for resale entry. For instance:

(1) Facilities-based competitors might find it more attractive to compete as resellers where the costs of providing new facilities are very high. Maintenance of route-averaged pricing for the telephone companies would allow such competitors to focus on building network facilities in low-cost areas and leasing telephone company facilities in high-cost areas.

(2) Restructuring Canadian long distance rates might still result in MTS/WATS prices well above those available on U.S. networks and, hence, resale using the facilities of U.S. carriers might be possible. However, a reduction in the difference between MTS/WATS prices on Canadian and U.S. networks would

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[108] Goss, Gilroy & Associates Ltd., "A Study of Telephone Resale and Sharing in the United States and Canada," prepared for the CRTC Interexchange Competition Proceeding, 5 October 1984.

reduce incentives for transborder resale, particularly in the case of transCanada traffic, due to the costs of cross-border access in both directions.

(3) The availability of lower priced bulk MTS/WATS alternatives provided by other facilities-based providers could still present opportunities for resale entry.

Although the above examples indicate that resale opportunities do not depend entirely on telephone company price structures, an irrefutable fact remains: to the extent that MTS prices are reduced at a faster rate than prices for other discounted telephone or non-telephone company provided long distance services, the economic opportunities for resale would also be reduced. Thus, in the face of competitive price response, reseller viability might depend more on the addition of value to a reseller's service offerings (for example, better customer responsiveness, increased billing detail, etc.) or serving niche markets, than on the rate differences between MTS or MTS/WATS and various bulk-rated long distance services.

As noted, resellers generally do not own their own transmission facilities and thus are not burdened with significant capital investment costs, apart from switching equipment. This lower initial cost can be associated with more rapid entry into the MTS/WATS market relative to facilities-based entrants. However, it should be noted that both CNCP and Telesat have extensive in-place network facilities, especially with regard to transmission, which could diminish this particular advantage should resale and facilities-based entry be permitted simultaneously. Competitive opportunities for resellers could be further diminished as a result of entry by existing carriers such as CNCP if they were allowed to extend their existing network base through resale. To a large extent, the viability of resale entrants relative to entry by facilities-based carriers ultimately depends on the regulatory environment. If a facilities-based carrier were allowed to offer MTS/WATS price discounts relative to the telephone companies, resale opportunities would diminish accordingly unless value were added by the service provided by the reseller.

5.4 Competition Scenarios for Canada

The preceding sections of this chapter have described the general characteristics of competitive entry into the public long-distance telephone service market in Canada as well as considering the potential entrants. This section outlines a number of alternative competition scenarios which could be adopted in the Canadian environment. The discussion that follows assumes resolution of the general characteristics of competitive entry and concentrates on the specific geographical, jurisdictional and industry structural issues that could determine the specific nature of MTS/WATS competition in Canada.

5.4.1 Geographically-Based Competition Scenarios

Various competitive scenarios that can be distinguished by their geographic coverage will be considered in this section. Although not explicitly addressed in

the following discussion, it is worth noting that if competition were allowed in one geographic area, it could have an impact in other areas through changes in the level of revenues available for distribution among the telephone companies.

5.4.1.1 Extra-Provincial/Extra-Territorial Competition

Under this scenario, competition in public long-distance telephone service would be introduced uniformly across Canada on an extra-provincial/extra-territorial basis. That is, inter-company, Canada-U.S. and Canada-overseas long distance traffic would be competitive, while intra-provincial/intra-territorial long distance traffic would not. Additionally, competitors would also be constrained to respect the current monopoly granted to Teleglobe Canada for carriage of overseas traffic; other means could not be sought for carriage of Canada-overseas traffic, for instance, through the United States.

In the case of companies such as Bell Canada and Northwestel, whose serving areas cover more than one province or territory, competition would be introduced on an extra-company basis. In theory, for Bell Canada and Northwestel one could conceive of introducing intra-company competition on an inter-provincial/inter-territorial basis. A number of difficult costing and organizational issues would, however, be raised by such an approach.

The introduction of competition on an extra-provincial/extra-territorial basis would significantly reduce the percentage of originated MTS/WATS revenues susceptible to competition. As Exhibit 2-3 indicated, only about 40 per cent of total industry-wide MTS/WATS revenues would be affected.

5.4.1.2 Extra-Provincial/Extra-Territorial Plus Inter-Regional Competition

The introduction of competition on an extra-provincial/extra-territorial basis need not exclude the introduction of competition in intra-provincial/intra-territorial traffic. Indeed, it would be possible to introduce intra-provincial/intra-territorial competition whether or not extra-provincial/extra-territorial competition were allowed. This is a matter that could be decided on an individual jurisdictional basis by the regulatory body concerned. Thus, individual regulatory agencies might choose to implement, prohibit or delay such competition. The CRTC could, for example, choose to allow implementation of competition in Bell Canada and B.C. Tel serving areas concurrently with the introduction of extra-provincial/extra-territorial competition, but delay its introduction in Northwestel and Terra Nova Tel serving areas. Additionally, some provinces might wish to prohibit such competition. Extra-company, intra-provincial competition involving both federal and provincial regulatory agencies could be subject to joint agreement.

An alternative scenario is thus postulated which assumes the existence of extra-provincial/extra-territorial competition as already described, and introduces the concept of inter-regional competition for those jurisdictions that would like some but not all intra-provincial/intra-territorial MTS/WATS traffic to be provided on a competitive basis. In this scenario, competition could be introduced on an inter-regional basis such that only intra-provincial/intra-territorial long distance traffic between major population centres would be competitive. That is, provinces

and territories would be divided into one or more regions, each encompassing a major population centre, between which MTS/WATS services could be provided competitively, but within which telephone company monopolies for such services would be maintained.

This is essentially the LATA concept which the U.S. has adopted. The Economics and Technology, Inc. consulting report presents a proposed LATA design for Canada.[109] The report suggests that, for the most part, an individual province or territory could be treated as a single LATA. However, provinces having more than one large population centre – such as Ontario, Québec and Alberta – could be divided into a number of LATA-like areas. In addition, the consultant suggests that Prince Edward Island, Northwest Territories and Yukon could be combined with other LATAs if they were individually unable to support "interLATA" competition due to demographic or geographic factors.

In contrast, the scenario considered here assumes that the proposed LATA-like regions conform to jurisdictional definitions of telephone company serving areas and do not cross provincial or territorial boundaries, except as regards Bell Canada and Northwestel service areas. This would allow individual jurisdictions to introduce inter-regional competition without infringing upon other jurisdictions.

Two possibilities exist, for this and the previous scenario, to permit competitors to access telephone company customers. First, a carrier interconnection arrangement similar to that previously described (section 4.2.3) could be introduced. It would require competitors to establish a point of presence in each local serving area where the competitor intends to compete so that customers could use the telephone company's local network to access the competitor's MTS/WATS services. The interconnection arrangement would, however, require network modification to prevent termination of prohibited traffic, either intra-provincial/intra-territorial or intra-regional, as appropriate. This function could be performed either by the originating telephone company or by the competitor, although the latter would probably require auditing. On this basis, competitive MTS/WATS services would be available only to customers situated in the local calling areas of population centres where competitors chose to establish a point of presence.

Alternatively, a carrier interconnection arrangement similar to the U.S. approach could be adopted. This would involve the establishment by competitors of one or more points of presence within a province, territory or region, with the established telephone company in that area being required to deliver traffic to the designated competitor using the telephone company's local or long distance facilities. Carrier interconnection charges under this arrangement could be established either on a flat-rate or distance-sensitive basis. Such an arrangement would generally permit the benefits of competition to be realized by customers throughout a province, territory or region where a competitor chose to establish a point of presence. That is, telephone company customers in specific areas where the

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[109] Economics and Technology, Inc., study commissioned by the Task Force.

competitor purchases interconnection throughout a province, territory or region could use that competitor's MTS/WATS services.

5.4.1.3 Extra-Provincial/Extra-Territorial and Intra-Provincial/ Intra-Territorial Competition

This scenario takes a different approach to the introduction of competition. First, it is assumed that all public long-distance telephone services would be provided competitively. Secondly, it is assumed that a competitor would establish points of presence within competitor-chosen or regulator-designated local calling areas throughout Canada. Carrier access would be provided on a local dial-up basis as described both in the previous section and in section 4.2.3.

This scenario would operate most effectively if federal, provincial and territorial authorities were to adopt a uniform approach to the introduction of competition. The basic characteristics of the scenario are similar to that proposed by CNCP in the CRTC Interexchange Competition Proceeding,[110] except that it would not necessarily be limited to CRTC-regulated telephone companies. It also resembles the approach recently adopted in Japan. This scenario provides the basis for the financial modelling of the impacts of allowing long distance competition presented in Chapter 6.

The most attractive approach for a new entrant in a competitive long distance market would be to provide originating service starting with the largest population centres and moving gradually to smaller and smaller centres. Ultimately, competitors could establish the capability to originate competitive long distance services from all local exchanges throughout Canada. (This was the basis for the calculation of carrier access costs for the all-Canada scenario discussed in section 4.2.3.)

Facilities-based alternative service providers operating in this fashion would generally employ their own long distance transmission facilities throughout the country. To gain greater call terminating coverage, they could also resell the long distance services (e.g., WATS) of the telephone companies or other competitors. Resellers would, of course, use this approach as the primary means of providing service. Competitive Canada-U.S. and Canada-overseas MTS/WATS services could be provided by connecting agreements with U.S. carriers or Teleglobe Canada, respectively. As a consequence of using call terminating capabilities such as WATS, competitors would be able to terminate calls to a much larger subscriber population than that from which calls could be originated. In fact, whereas call origination might initially be limited in this scenario, competitors would undoubtly seek to provide universal termination as quickly as possible to meet customers' requirements.

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[110] Interexchange Competition and Related Issues, CRTC Telecom Public Notice 84-6, 11 January 1984. CNCP Telecommunications, "Application for Interchange of Traffic with Public Switched Telephone Networks," 25 October 1983.

5.4.2 Heavy-Route/Targeted Market Competition

This scenario relaxes the expectation that major facilities-based carriers would provide competitive services throughout designated areas to the majority of telephone subscribers. This leads to the possibility that competitors would concentrate on the most lucrative, high-density routes and market segments. Telephone companies would, however, still be expected to act as service providers of last resort, with the responsibility to provide service to all subscribers within their serving areas.

Without a requirement to provide service on a reasonably universal basis, competitors could be expected to concentrate on the major intercity routes where traffic volume is highest. In fact, facilities-based carriers might choose to operate along only the Québec City-Windsor corridor, among the cities of the Western Triangle - composed of Edmonton, Calgary and Vancouver - and between the two, since a large portion of Canadian long distance traffic is concentrated on those routes. A competitor might consider serving other cities as the availability of facilities and/or traffic warranted.

The impact of such a scenario on telephone companies would depend on the manner of regulation. If telephone companies were required to maintain route-averaged pricing in the absence of a similar requirement for competitors, then they would be vulnerable to competition to the extent that competitors could provide service on higher density routes for a total price - including contribution payment - that would be lower than the telephone company's route-averaged price. If telephone companies were allowed to offer route-specific pricing, their ability to compete with prices offered by competitors would still depend on the regulatory principles used in establishing the telephone company prices on heavily used routes.

Competitors could be expected to compete in ways specific to their particular circumstances. CNCP might, for instance, concentrate on utilizing its fibre optics transmission system to compete on major routes. A new fibre optics-based competitor might find it difficult to compete against a company such as CNCP which is already well established in the marketplace. In a similar way, Telesat might choose to focus on long-haul and northern markets as well as on private networks. Both Cantel and Bell Cellular have modern microwave facilities in place along major traffic corridors in Ontario and Québec. Given that they already have facilities in place to provide cellular telephone service, it would be relatively simple to include ordinary (as opposed to mobile) long distance service among their product offerings.

Various institutions which own private telecommunications networks might also choose to compete on specific routes. Although they generally employ older technologies, their success in the MTS/WATS market would depend on allocating excess capacity at low cost to competitive services. If costed on an incremental basis, such competitors (and others such as Cantel or Bell Cellular) might be able to underprice even the newer fibre optics systems.

Competition of this nature would undoubtedly lead to pressures for rate deaveraging. If permitted, telephone companies could respond to competitors'

rates by selectively decreasing prices on vulnerable routes. The ultimate consequence of such pricing would be higher rates on low-density routes. As noted, in the United Kingdom, British Telecom and Mercury are permitted to price high-density routes lower than low-density routes. However, this practice existed prior to Mercury's entry into the domestic telecommunications market and it is still too early to say whether competition has increased the price differential between high and low-density routes.

5.4.3 International MTS/WATS Competition

This scenario extends the previous scenarios to consider the situation that could occur in Canada if a permissive approach were adopted with respect to international long distance competition. In the scenarios developed previously, it was assumed that competitors would use facilities located entirely within Canada for traffic originating and terminating within Canada. That is, competitors would not be permitted by either government policy or regulatory means to divert such traffic through the U.S. in order to take advantage of lower long distance prices. Similarly, it was assumed that all carriers would be required to make arrangements with Teleglobe Canada for the carriage of Canada-overseas traffic. (This assumption recognizes the effective monopoly that has been granted to Teleglobe Canada until 1992.) The scenario considered here examines two possibilities: first, that competitors would be allowed to bypass Canadian telecommunications facilities for domestic and Canada-overseas traffic and, secondly, the situation that might occur if Teleglobe's monopoly on Canada-overseas traffic were to end.

5.4.3.1 Bypass of Canadian Facilities

Given the close proximity of major Canadian centres to the U.S. border, domestic and Canada-overseas traffic could be easily routed through the United States. Such bypass of Canadian facilities could result from Canadian competitors (e.g., resellers) choosing to use the facilities of U.S. carriers or, alternatively, by U.S. carriers extending their networks into Canada for that purpose. Canada-overseas traffic is included in this discussion of bypass since Teleglobe Canada, as noted, has been granted an effective monopoly on overseas traffic until 1992.

In the first instance, competitors could choose to route Canadian long distance traffic through the U.S. to take advantage of lower MTS/WATS rates in the United States. By using cross-border access (generally through some shared facility), competitors could make U.S. rates available to Canadians customers. Exhibit 5-3 presents AT&T interstate and U.S.-Canada versus Bell Canada intra-company, transCanada and Canada-U.S. prices for a five-minute customer dialled call covering various distances. AT&T prices can be taken as representative since, currently, the long distance rates of the major competitors in the U.S. vary on average by only a few percentage points (section 3.1.8). The comparison of prices indicates that Bell Canada calls in all categories are less expensive for short distances but more expensive for longer distances. Intra-company calls are marginally more expensive, whereas transCanada calls are substantially so. Exhibit 5-4 presents AT&T international versus current Canada-overseas (Teleglobe Canada) prices for an eight-minute customer dialled call to various coun-

EXHIBIT 5-3

**Price Comparisons of Directly Dialled Long Distance Calls,
Bell Canada versus AT&T
(5-minute daytime call, Cdn. Dollars)**

Mileage	I AT&T Inter-state(1)	Ia AT&T US-Canada(2)	II Bell Canada Intra-Co. (3)	III % Difference (I-II)/I	IV Bell Canada Trans-Canada(4)	V % Difference (I-IV)/I	VI Bell Canada Canada-U.S.(5)	VII % Difference (I-VI)/I
5	$0.94	$0.83	$0.65	31%	$0.70	26%	$0.65	31%
25	$1.26	$1.45	$1.30	-3%	$1.30	-3%	$1.19	6%
75	$1.37	$1.87	$1.90	-39%	$1.95	-43%	$1.78	-30%
150	$1.51	$2.42	$2.05	-35%	$2.90	-92%	$2.30	-52%
250	$1.51	$2.77	$2.10	-39%	$3.50	-131%	$2.56	-69%
500	$1.64	$3.45	$2.20	-34%	$4.10	-150%	$3.32	-103%
750	$1.64	$3.69	$2.20	-34%	$4.50	-175%	$3.59	-119%
1000	$1.71	$3.93	$2.20	-29%	$4.60	-169%	$3.71	-117%
1500	$1.71	$4.17	$2.20	-29%	$4.60	-169%	$3.76	-120%
2000	$1.79	$4.37	$2.20	-23%	$4.70	-162%	$3.77	-110%

Notes:

(1) Effective 1 January 1988; restated in Canadian funds, $1 U.S. = $1.25 Cdn.
(2) Effective 15 April 1988; restated in Canadian funds.
(3) Effective 1 April 1988, per Schedule 1.
(4) Effective 1 April 1988. TransCanada = services provided between two or more Canadian telephone companies whose serving areas are not adjacent.
(5) Effective 1 July 1987. Canada-U.S. = services provided between a Canadian and a U.S. telephone company, excluding those in the non-contiguous states and terrritories, or between a Canadian telephone company and one operating in Mexico.

SOURCE: Bell Canada and AT&T tariffs.

EXHIBIT 5-4

Price Comparisons of Directly Dialled International Calls, Teleglobe Canada versus AT&T (8-minute daytime call, Cdn. Dollars)

	AT&T*	Teleglobe**	Percentage Higher Than AT&T
United Kingdom	$11.05	$11.48	4%
France	$12.33	$11.48	7% lower
Germany	$12.33	$15.39	20%
Italy	$12.33	$16.83	27%
Switzerland	$12.33	$15.39	20%
Japan	$16.83	$21.25	21%

* Effective March 1988; restated in Canadian funds, $1 U.S. = $1.25 Cdn.

** Rates in effect as of 1 June 1988.

SOURCE: Teleglobe Canada and AT&T tariffs.

tries. Canadian prices currently range from 7 per cent lower than U.S. rates for calls to some countries, to 27 per cent higher for calls to others. These price differences do not, however, reflect the whole situation that a competitor would face. The price advantage offered by U.S. rates would, in fact, be reduced by the costs of cross-border access (i.e., two border-crossing facilities would be required for Canadian competitors to use AT&T interstate services). This would likely reduce the threat of intra-company bypass to negligible levels. TransCanada and Canada-overseas traffic would, however, remain vulnerable, though the vulnerability of Canada-overseas traffic has lessened as a result of recent Teleglobe rate changes. Additionally, the level of AT&T's rates for U.S-Canada calls, as indicated in Exhibit 5-3, precludes the possibility of the competitor using a single border-crossing point and then using AT&T's U.S-Canada MTS to complete the call.

This analysis has relied on current price levels to indicate the susceptibility of Canadian domestic and overseas long distance traffic to diversion through the United States. In a competitive Canadian environment, long distance rates might be considerably lower and, thus, susceptibility to bypass because of rate differences could be reduced.

Another indicator of vulnerability to bypass via the U.S. is the concentration of traffic in various categories and along specific routes. Inter-company routes appear to be the most vulnerable. For instance, 26.5 per cent of B.C. Tel originated traffic ($192 million, Exhibit 2-3) falls into the inter-company category. A significant portion of that traffic is probably destined for major centres in Bell Canada territory. Similarly, 37 per cent of AGT originated traffic is classified as inter-company ($187 million) and is also likely to be largely destined for Bell Canada territory. Of these two companies, B.C. Tel traffic is most vulnerable due to the shorter distance between Vancouver and the U.S. border (i.e., the costs of transborder crossing are lower) than Calgary or Edmonton. Manitoba Tel appears vulnerable as well in respect of inter-company originated traffic ($110 million or 52.4 per cent). Much of this traffic originates in Winnipeg, which is relatively close to the U.S. border, and it is likely destined for major centres in Bell Canada, SaskTel, AGT and B.C. Tel territories. Bell Canada accounts for $302 million of originated inter-company revenues. Much of this traffic is generated by cities along the Québec City-Windsor corridor, which is relatively close to the U.S. border, and it is largely destined to large centres also close to the U.S. border (Vancouver, Calgary, Winnipeg, etc.).

Telephone companies operating in eastern Canada are less vulnerable to U.S. bypass due to their smaller markets, dispersion of traffic and the greater distances between the larger urban centres and the U.S. border. Island Tel, Newfoundland Tel and Terra Nova Tel serving areas are sufficiently far from the U.S. border and the revenues involved are sufficiently small that they probably face no significant threat of bypass via the United States. The dispersion of originated traffic among Saint John, Fredericton and Moncton would similarly limit such a threat in NBTel territory. MT&T has $73 million of originating inter-company revenues, much of which likely originates in the Halifax/Dartmouth area. The cost of cross-border access to Maine would, however, likely make this a marginal opportunity for bypass.

The threat of intra-company bypass via the U.S. appears to exist only along the Québec City-Windsor corridor. This is the only east-west, intra-company axis with a large volume of originated traffic, significant transmission distances and located sufficiently close to the U.S. border to offer potential for bypass. The small margins between AT&T interstate and Bell Canada intra-company rates currently reduce the likelihood of bypass via the U.S. along this corridor.

It should be noted, however, that if facilities for accessing competitive services were acquired to compete for other traffic (inter-company, Canada-U.S. and Canada-overseas), intra-company traffic could become more susceptible. Competitors might offer, and customers could elect to buy, long distance services as a package. A competitor using bypass via the U.S. could find the incremental costs of adding intra-company bypass to be sufficiently low to justify including intra-company calling as well as other categories to its portfolio of service offerings.

AGT, B.C. Tel and Bell Canada are most susceptible to competition by U.S. carriers for Canada-overseas originated traffic. These three companies together originate close to 94 per cent of Canada-overseas revenues. As noted earlier, recent Teleglobe rate changes are expected to reduce this susceptibility. However, if competitors were to package Canada-overseas traffic with other traffic, bypass of Teleglobe's facilities would be feasible even in the face of only small rate incentives.

5.4.3.2 Open Competition for Canada-Overseas Services

This section examines briefly the situation that could occur if Teleglobe's monopoly on Canada-overseas traffic were to end.[111] In the scenarios considered, it was assumed that competition for Canada-overseas traffic could occur, but that competitors would be required to sign connecting agreements with Teleglobe. Competitive advantage could thus only be gained by delivering traffic to Teleglobe gateways less expensively than others or by negotiating a more favourable connecting agreement.

Canada-overseas competition might be made more attractive if competitors were able to seek other means of carrying Canada-overseas traffic. The most likely arrangements would be through establishing connecting agreements with U.S. carriers such as AT&T, MCI, etc. If agreements for bulk carriage of Canada-overseas traffic by U.S. carriers could be negotiated, competitor rates could approximate those of U.S. carriers. Canadian carriers might also fall under the umbrella of U.S. carriers' agreements with foreign companies and, hence, no special arrangements would need to be negotiated by Canadian competitors to allow them entry into overseas markets.

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[111] The federal government indicated at the time of its privatization that Teleglobe Canada's effective monopoly would be extended to 1992. (See footnote 2, supra.)

The possibility also exists in this scenario that the telephone companies would seek connecting agreements with U.S. carriers for Canada-overseas traffic. However, given that almost 75 per cent of Canada-overseas revenues are generated in Bell Canada territory alone, and further, that BCE Inc. indirectly (through BCE Commcor Inc.) holds about 30 per cent of Memotec Data Inc. (Teleglobe's parent company) shares, this possibility seems rather remote, at least in the case of Bell Canada overseas traffic.

5.5 Summary

This chapter has presented an analysis of competitive entry into the long distance market in Canada. Specifically, it has considered some general models and a variety of scenarios relative to the potential introduction of competition in the provision of public long-distance telephone service. The competition models considered range from an unregulated competitive market model, to a dominant-carrier regulation model, to a fully regulated competitive market model. The competition scenarios examined several ways in which competition could occur, depending on various geographical, jurisdictional and industry structural issues. For instance, competition might be permitted: (a) on an extra-provincial/extra-territorial basis only, (b) on an extra-provincial/extra-territorial basis plus, in some jurisdictions, on an inter-regional basis, or (c) on an extra-provincial/extra-territorial and intra-provincial/intra-territorial basis in selected communities across the country. Additionally, competition, if allowed, might occur only on high-density routes or in targeted market areas. The scenarios also explore the situation that could arise if a permissive approach to international competition were to be allowed.

A major issue in considering competition in public long-distance telephone service is its potential impact on the maintenance of the universal availability of affordable telephone service. One approach to maintaining universal service would be to levy contribution charges on competitors such that they contribute to the recovery of subscriber access costs that might otherwise need to be recovered through higher local rates. Additionally, telephone companies and, to some extent, new entrants could be required to meet obligations to provide service. Finally, pricing mechanisms could be implemented to assist those subscribers who might otherwise discontinue telephone service if local rates were to increase significantly.

Another key issue is the method of providing competitors with access to telephone company customers. A carrier access arrangement similar to the U.S. LATA approach could be adopted. A telephone company's local and long distance facilities would be used to provide competitors with access to customers throughout a market area (a province, territory or subdivision thereof). Depending on the conversion of local exchanges to provide such access and on the compensation charges instituted by telephone companies to deliver long distance traffic to other carriers, a particular competitor might choose to provide services either on a generally universal originating basis or in selected geographical areas only. Alternatively, carrier access could be provided on a local exchange basis in those communities where a competitor chooses to enter the long distance market. With this second approach, only the telephone company's local facilities would

normally be used to provide competitors with access to customers. The key difference in the two approaches relates to the possibility for quicker and more extensive coverage by a competitor. With the first approach, a competitor could choose to provide service to customers on a widespread basis at the outset. With the alternative approach, a competitor's services initially would likely be available only to customers in the local calling areas of major population centres.

6.0 FINANCIAL ANALYSIS OF COMPETITION IN PUBLIC LONG-DISTANCE TELEPHONE SERVICE

This chapter describes the results of a simulation exercise to consider the financial impacts on telephone companies of introducing competition in the provision of public long-distance telephone service in Canada. The focus of the analysis was to determine: (a) monthly local rate changes resulting from competitive entry and (b) contribution payments that a competitor could afford to pay. These two key parameters were determined under a range of competitive scenarios in which alternative MTS/WATS providers could offer services at a price discount and remain financially viable. It should be noted that the range of scenarios considered here is narrower than those discussed in Chapter 5; it was also assumed throughout that competitors would require separate interconnection to each local exchange from which they wish to originate traffic.

The simulation study, entitled "The Financial Impacts of Competition in Public Long Distance Telephone Services on Canada's Telephone Companies," was carried out using financial models developed by KPMG Peat Marwick, Toronto, under contract with the Task Force. While certain of the input data and assumptions were specified by the Task Force, the models, together with their underlying parameters, were developed independently by the consultant.

This chapter has the following structure: Section 6.1 describes the assumed regulatory environment, outlines key assumptions and parameters of the financial models and presents the competitive scenarios that were simulated. Section 6.2 describes 1995 base cases, including estimated local and long distance rate levels absent competition. These rates were projected, first, with existing rate relationships and, second, by assuming modified rate relationships (i.e., rate rebalancing). Section 6.3 discusses the simulation results associated with competition. Section 6.4 contains concluding remarks.

6.1 The Financial Simulation Model

6.1.1 The Regulatory Environment Assumed

It was assumed throughout the Peat Marwick analysis that the following regulatory framework would exist: Tariffs would be set on the basis of rating principles that include company-wide rate averaging, value-of-service pricing and route averaging. Telephone companies would be carriers of last resort with certain obligations to provide service on demand, and they would provide a full range of local and long distance telephone services. It was further assumed that, among other things, regulatory authorities would prescribe the geographic scope of competition as well as the terms and conditions of allowing competitive service providers to access telephone company networks and their customers. This would include the level and structure of contribution payments to be paid by competitors to compensate the telephone companies for the loss of long distance contribution revenues associated with MTS/WATS competition. Additionally, it was assumed that the regulator would constrain the telephone company to make up all revenue

deficiencies that would result from the introduction of competition by local rate increases exclusively.

6.1.2 Model Descriptions

To carry out the analysis three financial models, namely, a telephone companies model, a facilities-based alternative MTS/WATS provider model and a resellers model, were constructed by Peat Marwick. A detailed description of the models is contained in the consultant's report, an overview of which is provided below.

The telephone companies model is an expanded and more elaborate version of a model used by Peat Marwick in earlier studies, including the 1986 Federal-Provincial Examination of Telecommunications Pricing and the Universal Availability of Affordable Telephone Service.[112] It includes seventeen major telephone companies - the Telecom Canada members and the following eight others:

- Terra Nova Telecommunications
- Québec-Téléphone
- Télébec
- Northern Telephone
- Thunder Bay Telecommunications
- 'edmonton telephones'
- Prince Rupert City Telephones
- Northwestel.

The telephone companies model simulates the financial effects of competitive entry by a national facilities-based carrier and resellers on the above-mentioned major telephone companies. It incorporates costs and revenues from the revenue settlement procedures that have been adopted by the telephone companies. In the case of Telecom Canada members, this includes the Revenue Settlement Plan (RSP) and various other settlement agreements. The settlement agreements adopted by the non-Telecom Canada companies are likewise included. A description of the settlement agreements adopted by Telecom Canada members and the non-Telecom Canada companies is contained in Appendix C. The model incorporates summary financial data on the telephone companies for the years 1978, 1982 and 1986 together with local and long distance telephone company rates in effect on December 31, 1987. Based on these data and on a number of assumptions regarding how the underlying parameters would change, the model predicts the financial performance of telephone companies in the year 1995. That test year was chosen because it was assumed that long distance competition would

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[112] Peat, Marwick and Partners, "Impacts of Competition in Message Toll Telephone Services," Report commissioned by the Department of Communications, Ottawa, and Provincial Governments, September 1984 (the "Competition Study"). Also see Federal-Provincial Examination of Telecommunications Pricing and the Universal Availability of Affordable Telephone Service, Working Papers, October 1986, Chapter 3.

begin in 1989 and that the competitive market would have begun to mature by 1995.

As noted, the telephone companies model in respect of Telecom Canada members relies on cost separation methods specified by the Telecom Canada RSP. The basic characteristic of the numbers used in the modelling exercise is that local and long distance revenues exceed allocated expenses, whereas revenues for local loop and a residual category fall below allocated expenses. As an example, the magnitude of the numbers used by the consultant for Bell Canada are presented in Exhibit 6-1. A surplus in 1986 of approximately $2.5 billion from local and long distance services is offset by a shortfall of a similar amount in the local loop and residual categories; a similar estimated 1995 amount used in the model is approximately $4.5 billion. Proportionately comparable figures apply to other Telecom Canada members. They indicate the magnitude of contribution payments that are inherent in the Telecom Canada rate categories and revenue settlement process.

The facilities-based alternative MTS/WATS provider model simulates the financial results of a national facilities-based carrier over a 15-year time horizon. It was developed by the consultant on the basis of information filed by CNCP in its "Application for Review of Telecom Decision CRTC 85-19,"[113] from additional information provided by CNCP and from other information available to the consultant. It was designed to respond to changes in MTS/WATS traffic volume as well as the geographic scope of competition. It assumes that the competitor would begin operations in 1989 and would achieve approximately 95 per cent of its ultimate market share by 1995. Market penetration to the assumed level was estimated by using a logistic curve.

The model assumes that one year after start-up, the competitor would have the capacity to serve approximately 60 per cent of all subscribers in the areas where long distance competition is allowed. By the end of the second year, that capability would have increased to 70 per cent. The model also assumes that in the first three years, long distance calls carried on the competitor's facilities would only terminate in the cities served by the competitor, representing 60 to 70 per cent of the population in each province and territory served. This was assumed to increase between the 4th and 7th years as a result of the installation of additional facilities and the use of telephone companies' services (e.g., WATS), so that by the end of the 7th year (1995) universal termination would be available.

By the end of that time, the model assumes that 85 per cent of the combined population of the served provinces or territories would be able to subscribe to the services of the alternative facilities-based carrier. Under a scenario in which competition is assumed throughout Canada, the following would be the minimum number of major population centres served by alternative facilities-based carriers in the various provinces and territories:

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[113] CNCP Telecommunications, "Application for Review of Telecom Decision CRTC 85-19," 19 December 1985.

EXHIBIT 6-1

Revenue Settlement Plan Revenues and Allocated Expenses for Bell Canada Used in Modelling the Impacts of Competition

($ Millions)

YEAR	FINANCIAL ITEM	SERVICE CATEGORY					
		LOCAL	LONG DISTANCE	LOOP	RESIDUAL	COMPETITIVE AND TERMINAL	TOTAL
1986	Revenues	1,393.8	2,896.9	0	566.2	1,423.8	6,280.7
	Expenses	966.3	848.3	1,464.9	1,577.4	1,423.8	6,280.7
	Surplus(Shortfall)	427.5	2,048.6	(1,464.9)	(1,011.2)	0	0
1995	Revenues	2,118.1	6,277.5	0	878.3	1,613.9	10,887.9
	Expenses	1,885.9	1,976.6	2,964.3	2,447.1	1,613.9	10,887.9
	Surplus(Shortfall)	232.2	4,300.9	(2,964.3)	(1,568.8)	0	0

SOURCE: Peat Marwick, study commissioned by the Task Force, Exhibit A2.

–	Newfoundland	3	–	Manitoba	3
–	Prince Edward Island	1	–	Saskatchewan	5
–	Nova Scotia	5	–	Alberta	8
–	New Brunswick	3	–	British Columbia	10
–	Quebec	24	–	Northwest Territories	1
–	Ontario	29	–	Yukon	1

It was implicitly assumed in the study that the alternative facilities-based carrier would establish connecting agreements with U.S. carriers and Teleglobe Canada in order to provide Canada-U.S. and Canada-overseas services, respectively, under the same terms and conditions as for existing agreements between Telecom Canada and those carriers.

The key output of this part of the modelling exercise was the amount of contribution payments that the alternative facilities-based carrier could afford to pay the telephone companies and remain financially viable. Viability was defined in terms of attaining a 13 per cent internal rate of return over a ten-year period. The estimated "affordable" contribution payment under each long distance competition scenario was input to the telephone companies model as a fixed percentage of each telephone company's rates. Each telephone company would thus receive a different contribution payment per minute.

The resellers model was derived from the facilities-based carrier model. The size of a typical reseller (measured in terms of company revenues) was considered to be about one-quarter that of a facilities-based carrier. Based on resellers owning their own switching equipment, and leasing long distance private-line facilities and WATS from the telephone companies and other facilities-based carriers, capital, maintenance and operating costs for each resale carrier were assumed to be 40 per cent of those of the facilities-based carrier. It was also assumed that, initially, resellers would use WATS extensively to provide MTS to their customers and that, as new customers were acquired, private line facilities would be increasingly utilized as a substitute for WATS. WATS would then be used only to serve overflow traffic and for call termination in low-density areas. This assumption is reflected in the model by the resellers' costs for leased facilities declining from 60 per cent to 36 per cent of telephone companies' MTS/WATS rates over the first seven years of operation.

The key results derived from the various models relate to the financial effects of competitive entry on each telephone company, the nature of which is described in the following section. These financial effects were then used to calculate the residential and business local rate changes for each telephone company which would be necessary to offset such effects.

6.1.3 Competition Scenarios Modelled

A series of competitive scenarios were modelled to determine the financial effects of competitive entry. These scenarios had the following parameters:

(1) Entrants:

- facilities-based carriers only;
- resellers only; or
- combined facilities-based and resale carriers (assuming a 75 per cent, 25 per cent market split between the two types of competitors).

(2) Geographical areas of competition:

- all-Canada;
- in and between the serving areas of Telecom Canada members; or
- in and between Bell Canada and B.C. Tel serving areas only.

(3) Contribution payments:

- sufficient to offset fully any negative financial effects on telephone companies;
- no contribution payments; or
- based on maintaining the financial viability of competitors and assuming competitors' alternative price discounts of 0, 10 or 25 per cent.

(4) Base market lost by the telephone companies:

- 10 and 20 per cent.

Carrier access arrangements varied by type of alternative service provider and market share. With respect to the facilities-based carrier, Type F access (i.e., 1+ dialling) was assumed for the 20 per cent market loss scenarios and Type D access (1-950-0XXX) was assumed for the 10 per cent market loss scenarios. Resellers were assumed to use only Type D access.

In addition to deriving results for the scenarios outlined above, sensitivity analyses were conducted on a number of data elements that were held constant in all the scenarios considered, namely, MTS/WATS price elasticities of demand, investment elasticities, access arrangements and competitor-required internal rates of return.

6.2 1995 Base Cases

To determine the anticipated effects in 1995 of competitive entry in the public long-distance telephone service market, the consultant constructed two base cases of the local rate situation that could be expected absent competition. The first of these assumed that existing rate structures would be maintained (with

rate level changes as required); the other assumed a partial rebalancing of local and long distance rates in 1989, prior to the introduction of competition. These two base cases are described below.

6.2.1 1995 No Entry Scenario – Projected with Existing Rate Relationships

The Peat Marwick telephone companies model indicates that customers of most telephone companies would experience modest annual local rate increases between 1988 and 1995 (revenue requirement shortfalls were assumed to be distributed evenly between local and intra-company long distance rates). Residential and business monthly local rates for the 1995 base case are shown in Exhibits 6-2 and 6-3, in addition to rates at December 31, 1987. Local rate changes are seen to be much lower than the inflation forecast. The modelling results suggest that these moderate rate changes are the consequence of: (a) telephone companies maintaining their past productivity improvement trend, which by and large has offset inflation-related cost increases; (b) a much higher growth rate of long distance traffic (which has a high profit margin) than local service (low profit margin); (c) significant economies of scale in long distance facilities; and (d) continued technological advances leading to a much lower price inflation associated with capital investment than the general inflation rate.

In considering these results and those of the next section, it should be noted that the modelling exercise did not take into account any actual or planned rate changes since December 31, 1987. In some telephone company serving areas, significant changes to long distance rates have taken place since that time.

6.2.2 1995 No Entry Scenario – Projected with Modified Rate Relationships (Partial Rate Rebalancing)

In order to assess whether partial rate rebalancing would have an impact on the financial effects associated with the introduction of long distance competition, a separate 1995 base case was constructed. In this case, long distance rate reductions of 20 per cent for intra-company, 50 per cent for inter-company and 25 per cent for Canada-U.S. and Canada-overseas long distance services, with offsetting increases in local rates, were assumed. Based on the results of the telephone companies model, such rate rebalancing would be only partial, and it would still leave long distance prices well above marginal costs. The projected 1995 monthly local rate levels in this scenario are also displayed in Exhibits 6-2 and 6-3. The estimated monthly local rates in the 1995 partially rebalanced base case would vary up to approximately $10 and $28 higher, respectively, for residential and business subscribers for the various telephone companies as compared to the 1995 base case with existing rate structures. Some independent telephone companies would experience only small rate changes.

6.3 Financial Impact of Competition

On the basis of information reviewed by the Task Force (Chapter 5), it is clear that if long distance competition were permitted in Canada, new entrants would only be able to penetrate a significant share of the public long-distance telephone service market if they were able to offer a price discount. No evidence was avail-

EXHIBIT 6-2

Estimated Average Monthly Local Rates - Residential

COMPANY	31 DEC. 1987	1995 BASE CASES		DIFFERENCE BETWEEN BASE CASES
		EXISTING RATE STRUCTURES	REBALANCED RATES	
Newfoundland Tel	$10.47	$11.39	$17.90	$6.51
Island Tel	9.55	10.13	15.38	5.25
MT&T	10.46	9.89	17.22	7.33
NBTel	9.43	9.12	16.94	7.82
Bell Canada	9.32	10.39	15.36	4.97
Manitoba Tel	6.67	6.21	11.72	5.51
SaskTel	6.71	6.07	14.08	8.01
AGT	7.78	8.23	18.46	10.23
B.C. Tel	10.07	10.08	17.03	6.95
Terra Nova Tel	7.90	8.14	13.28	5.14
Québec-Tél	7.27	7.64	12.21	4.57
Télébec	10.04	11.13	14.74	3.61
Northern Tel	10.20	8.97	11.50	2.53
Thunder Bay	4.75	4.63	5.13	0.50
'edmonton tel'	8.35	6.94	6.96	0.02
Prince Rupert	7.25	8.52	8.93	0.41
Northwestel	7.00	6.46	14.79	8.33

SOURCE: Peat Marwick, study commissioned by the Task Force.

EXHIBIT 6-3

Estimated Average Monthly Local Rates - Business

COMPANY	31 DEC. 1987	1995 BASE CASES		DIFFERENCE BETWEEN BASE CASES
		EXISTING RATE STRUCTURES	REBALANCED RATES	
Newfoundland Tel	$34.77	$37.82	$59.44	$21.62
Island Tel	28.62	30.36	46.10	15.74
MT&T	27.08	25.60	44.58	18.98
NBTel	33.32	32.22	59.85	27.63
Bell Canada	31.50	35.12	51.91	16.79
Manitoba Tel	19.55	18.19	34.34	16.15
SaskTel	18.88	17.07	39.61	22.54
AGT	21.61	22.85	51.28	28.43
B.C. Tel	34.67	34.72	58.65	23.93
Terra Nova Tel	19.70	20.30	33.13	12.83
Québec-Tél	19.35	20.34	32.51	12.17
Télébec	26.45	32.05	42.42	10.37
Northern Tel	27.00	23.75	30.45	6.70
Thunder Bay	11.20	10.93	12.11	1.18
'edmonton tel'	23.16	19.24	20.51	1.27
Prince Rupert	16.77	19.70	20.65	0.95
Northwestel	14.00	12.92	29.58	16.66

SOURCE: Peat Marwick, study commissioned by the Task Force.

able, however, to establish the relationship between the level of a competitor's price discounts and its market share. For this reason, the Peat Marwick study sought to answer the following two "what-if" questions:

(1) What would residential and business local rate changes be if competitors gained 10 per cent of the telephone companies' base market with a 10 per cent price discount?

(2) What would these rate changes be if competitors gained 20 per cent of the telephone companies' base market with a 25 per cent price discount?

The 10 per cent market share accompanied by a 10 per cent price discount and the 20 per cent market share with a 25 per cent price discount scenarios were selected because both the U.S. experience and evidence filed during the CRTC Interexchange Competition Proceeding indicates that they are reasonable points of departure for discussing the financial impacts of MTS/WATS competition.[114] Subsequent discussion of the results of the Peat Marwick analysis focuses on these competition scenarios, in which public long-distance telephone service is offered: (a) by the facilities-based competitor, (b) by resellers, or (c) by both types of competitors - either in and between Bell and B.C. Tel serving areas only or throughout Canada.

6.3.1 All-Canada Facilities-Based Competition

If a facilities-based carrier competed nation-wide and penetrated a significant portion of the existing MTS/WATS market, Peat Marwick's modelling results indicate that for Telecom Canada member companies generally, the incremental costs of providing long distance service would be approximately the same as those of the competitor modelled. According to the consultant's estimate, these costs would amount to 13.8 cents per minute in 1995. Of this amount, 8.8 cents relate to switching and transmission; the remainder is associated with the cost of local distribution. The study also shows that the telephone companies' average long distance rate would be 44.6 cents per minute in 1995. The contribution from long distance revenues is therefore 30.8 cents per minute for traffic carried by the telephone company. When the competitor offers a 25 per cent price discount, its rate would be 33.45 cents per minute. Thus, after subtracting 13.8 cents per minute of costs, there are 19.65 cents per minute available to cover fixed costs and pay telephone companies for lost long-distance revenue contribution. This is 11.15 cents per minute less than the contribution made by telephone companies' own long distance traffic.

As a result of this lower unit contribution and possibly higher fixed costs (allocated on a per unit basis), even after an initial start-up period, a facilities-based competitor would not be able to pay sufficient compensation to telephone companies to offset fully the negative financial effects of long distance

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[114] Market share was calculated before considering traffic stimulation due to competitor price discounts. Competitor market share including such traffic stimulation would be slightly larger.

competition unless it were to eliminate any price discount offered. As explained later, resellers would experience higher costs than facilities-based carriers and they would thus be even less able to compensate telephone companies. Exhibit 6-4 presents average contribution payments that competitors could afford to pay, at least over the first seven to ten years of operation. As the exhibit indicates, required competitor contribution discounts range on average from 30 to 38 per cent for facilities-based carriers, depending on the scenario. Resellers would require contribution discounts ranging on average from 64 to 78 per cent, whereas in a facilities-based plus resellers scenario, competitors would require discounts averaging 38 to 48 per cent. As a consequence of these discounts, long distance competition may be expected to result in higher local rates generally.

The consultant calculated local rate impacts by applying any telephone company local rate changes on an equal percentage basis to both residential and business subscribers, i.e., assuming that the percentage increase in residential and business local rates would be the same. Such changes were also calculated on an equal dollar basis for both types of of customers, i.e., assuming that the dollar increase in residential and business monthly local rates would be the same. Since it can be argued that applying required local rate changes on an equal percentage basis to residential and business customers is more consistent with existing rating practices, only this type of local rate change will be considered in the discussion that follows. The consultant's report contains equal dollar and percentage increase results for the various scenarios.

Exhibits 6-5 and 6-6 illustrate the effects on residential and business monthly local rates, respectively, for facilities-based competition throughout Canada. Among Telecom Canada members, AGT would experience the highest local rate increases, while Manitoba Tel would experience the lowest. In the 20 per cent competitor market share with a 25 per cent price discount scenario, AGT residential rates would increase by an estimated $3.18 per month (close to 40 per cent), while Manitoba Tel rates would increase by only $0.63 (10 per cent) per month. To a large extent, the magnitude of projected local rate increases for each company relates to the size of its contribution from MTS/WATS. Manitoba Tel has a cost structure similar to that of other Telecom Canada member companies, but its intra-company long distance rates and average contribution from long distance traffic is the smallest of the Telecom Canada companies (Exhibit 6-7). Given that in the model, competitors' compensation payments were calculated as a percentage of company rates, if Manitoba Tel were to lose long distance traffic to a competitor, the average "shortfall" to be made up by local rate increases in its serving area would be relatively small. Exhibits 6-5 and 6-6 also show that municipally-based independent telephone companies would experience local rate decreases as a result of competition. The consultant indicates that this results from the fact that contribution payments made directly to these telephone companies would exceed the revenue they would otherwise receive from other telephone companies under current revenue settlement procedures.

Among the non-Telecom Canada companies for which data were available, the modelling results suggest that the impact on rates in Northwestel's serving area would be the greatest because its contribution from long distance revenues is high. In practice, such a telephone company, which has a small customer base and

EXHIBIT 6-4

Average Contribution Paid By Competitors, All-Canada Competition ($1995, Cents Per Minute)*

TYPE OF COMPETITION	25% PRICE DISCOUNT/ 20% MARKET SHARE			10% PRICE DISCOUNT/ 10% MARKET SHARE		
	FULL REQUIREMENT	'AFFORDABLE' PAYMENT	PERCENTAGE DISCOUNT	FULL REQUIREMENT	'AFFORDABLE' PAYMENT	PERCENTAGE DISCOUNT
Facilities-Based Carrier Only	12.78 cents	7.92 cents	38%	14.53 cents	10.20 cents	30%
Resellers Only	12.49 cents	2.75 cents	78	14.25 cents	5.20 cents	64
Facilities-Based Plus Resellers	12.71 cents	6.63 cents	48	14.46 cents	8.95 cents	38

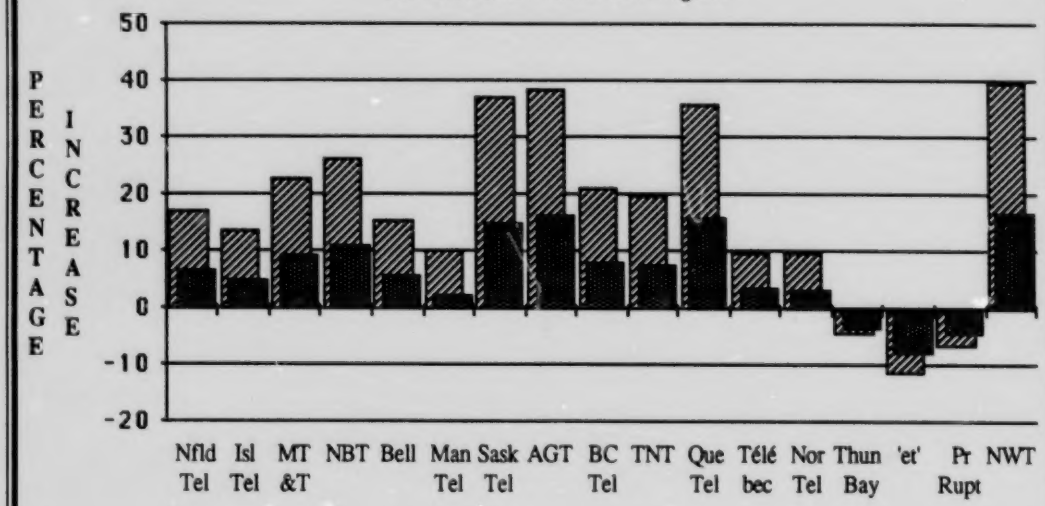
* Contribution payments are made twice, once at each end of a long distance call.

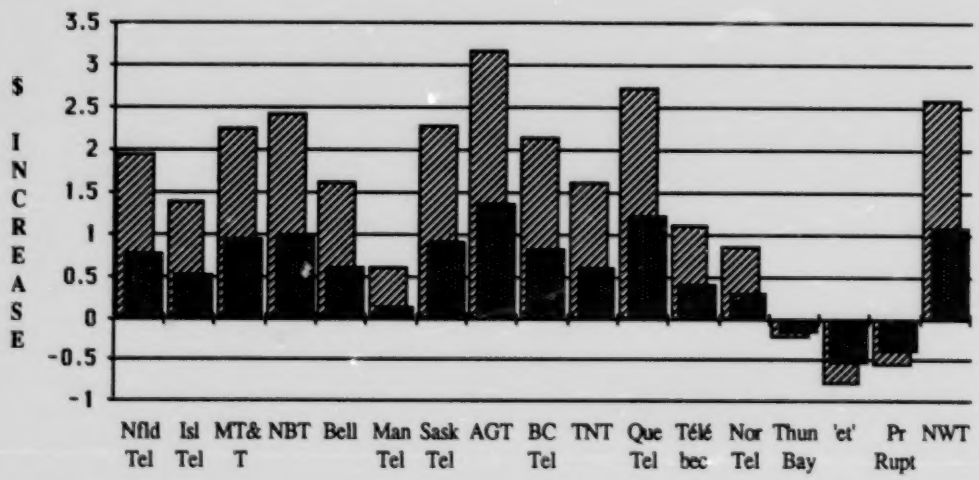
SOURCE: Peat Marwick, study commissioned by the Task Force.

Exhibit 6-5

Estimated Effects of
Facilities-Based Long Distance Competition
on Local Rates, 1995 *

Residential Rate Changes



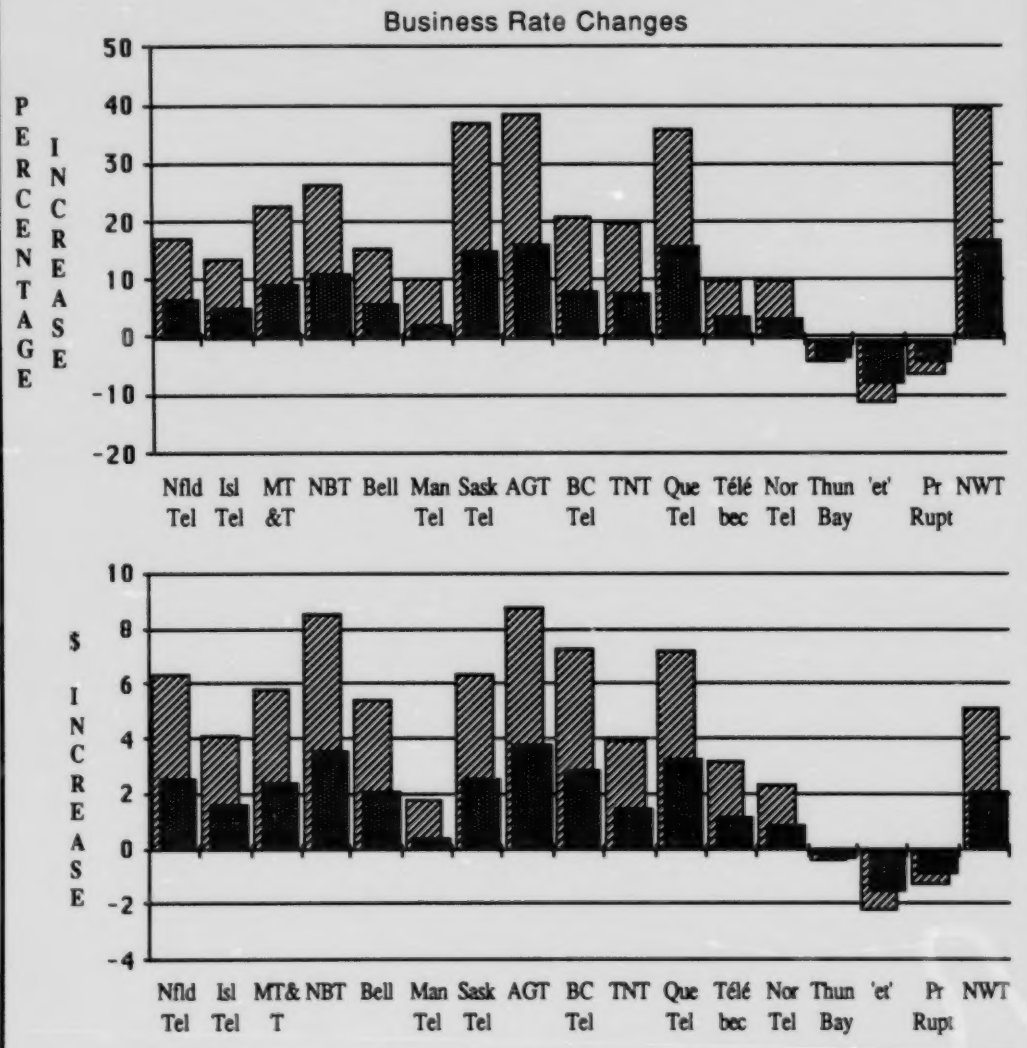


* Rate changes are for 1995 and are expressed in 1995 dollars. Assumes All-Canada competition and equal percentage changes to business and residential rates.

Source: Peat Marwick, study commissioned by the Task Force.

Exhibit 6-6

Estimated Effects of
Facilities-Based Long Distance Competition
on Local Rates, 1995 *



* Rate changes are for 1995 and are expressed in 1995 dollars. Assumes All-Canada competition and equal percentage changes to business and residential rates.

Source: Peat Marwick, study commissioned by the Task Force.

EXHIBIT 6-7

Estimated Long Distance Contributions, 1995

(From Telecom Canada Settled Revenues*)

	REVENUES (CENTS/MIN.)	COST (CENTS/MIN.)	CONTRIBUTION (CENTS/MIN.)	CONTRIBUTION %
COMPANY				
Newfoundland Tel	63.8	23.0	40.8	64.0
Island Tel	51.2	16.2	35.0	68.2
MT&T	62.2	18.3	48.9	70.5
NBTel	45.8	12.3	33.5	73.1
Bell Canada	39.6	12.4	27.2	68.6
Manitoba Tel	34.8	13.3	21.5	61.9
SaskTel	51.5	15.6	35.9	69.7
AGT	54.2	17.6	36.6	67.5
B.C. Tel	51.8	15.8	36.0	69.5
Average	44.0	14.0	30.0	68.2
TYPE OF TRAFFIC				
Intra-company	34.4	13.5	20.9	60.8
Adjacent-company	54.1	15.8	38.3	70.8
TransCanada	70.3	16.1	54.6	77.7
Local	-	-	-	1.9

* Includes settlements from foreign exchange and other inter-connected private line services. (Their contribution is minimal).

SOURCE: Peat Marwick, study commissioned by the Task Force.

is more dependent than other companies on a few large customers for most of its long distance revenues, could be particularly susceptible to long distance competition.

Turning to the facilities-based MTS/WATS competitor, the modelling exercise calculated, for each scenario studied, the contribution payment necessary to ensure that the competitor would be financially viable. For the all-Canada, 25 per cent price discount, 20 per cent competitor market share scenario, from years 7 to 15 it would earn an increasingly high return, estimated at 33 per cent in the final year. The consultant's results indicate that once the competitive long distance market matures, the competitor could afford higher contribution payments to telephone companies than those examined. Furthermore, the competitor would be able to compete with telephone companies at smaller price discounts. Both of these developments would have the effect of reducing the level of local rate increases attributable to the introduction of MTS/WATS competition.

Peat Marwick conducted an analysis of subscribers' bills to determine who might receive lower total monthly bills as a result of long distance competition. The analysis was conducted using billing data supplied by various telephone companies for sample months in 1986 or 1987. The data were primarily for residential (urban and rural) and business (small, medium and large) subscribers. The analysis was conducted on the basis of historical billing data and did not take into account changes that could occur as a consequence of competition - for example, calling stimulation as a result of lower long distance rates.

As noted earlier, the assumption of the modelling exercise was that the financial impacts of long distance competition on telephone companies would result in local rate changes for all subscribers - that is, generally higher local service rates. Thus, once competition has been introduced and local rate increases have been absorbed, all subscribers could save money if they chose to use the competitor's long distance services. However, the assumption of the modelling exercise was that only a limited number of subscribers would be attracted to the competitor; as noted, the model assumes in this scenario that the competitor would gain only 20 per cent of the telephone companies' long distance traffic (measured in conversation minutes). Comparing the situations before and after introducing competition in the long distance market, those subscribers who chose not to change carriers would experience higher local bills which would not be offset by lower long distance charges. Those subscribers who did choose to change to the competitor could offset, either partially or fully, local rate increases by lower long distance charges. That is, depending on their long distance calling patterns, while some subscribers who changed to the competitor would experience a lower overall monthly bill, other such subscribers would <u>not</u> achieve a net bill reduction since they would not generate sufficient long distance rate reductions to offset the local rate increases.

Based on the billing data supplied by the telephone companies, the consultant generated a series of tables of the percentage of business and residential access lines for which a 10 per cent or 25 per cent saving in long distance call charges would outweigh the estimated local rate increase for each scenario. The tables prepared by the consultant were used to generate a summary table (Exhibit 6-8)

EXHIBIT 6-8

Subscribers Who Would Experience Lower Bills with Competition*

(Percentage)

COMPANY	BUSINESS SUBSCRIBERS			RESIDENTIAL SUBSCRIBERS	
	SMALL	MEDIUM	LARGE	URBAN	RURAL
Bell Canada	8.7%	12.1%	9.6%	13.0%	15.3%
Island Tel	10.7	16.9	8.4	15.0	14.0
MT&T	7.9	14.3	13.2	13.5	13.4
NBTel	8.6	10.7	6.8	13.6	11.2
B.C. Tel	10.0	12.2	8.2	14.8	18.1
Terra Nova Tel	12.6	--	8.0	16.7	17.4
Northwestel	13.8 (all business)			17.1 (all residential)	
AGT	8.2 (all subscribers)				

* The scenario assumes all-Canada competition with status quo rates, a competitor price rate discount of 25% and a 20% market loss for the telephone company. The numbers in this exhibit were derived from Peat Marwicks's tables of access lines with long distance usage exceeding breakeven billing (Chapter IV of the Peat Marwick report). For example, the consultant estimates that, in theory, for any one of 65% of Bell Canada's urban residential subscribers, a 25% savings on long distance call charges would more than make up the estimated local rate increase provided that, in total, no more than 20% of traffic switched to a competitor's service. As soon as the percentage of telephone company traffic lost exceeds 20%, the calculated impact on local rates increases. However, multiplying the initially calculated number (65%) by the 20% market loss upon which it was based provides an estimate of 13% of the customer base that would save enough on long distance charges to make up the increase in local rates if an average cross-section of subscribers switched to the new service. The remaining subscribers would have higher net monthly bills, as is shown here.

of the number of business and residential customers in the various categories that would experience net monthly bill reductions in a scenario where the competitor would provide a 25 per cent price discount and gain 20 per cent of the telephone company's long distance traffic. The entries in this exhibit were determined by multiplying the percentages in the consultant's tables by 20 per cent.

Using the Bell Canada numbers as an example, the consultant estimates that, for any one of 65 per cent of that company's urban residential subscribers, the 25 per cent long distance price reduction could potentially counterbalance the estimated local rate increase and reduce their net monthly bills – provided that the total number taking advantage of the lower rates did not exceed 20 per cent of the telephone company's customers. Given the assumption that only 20 per cent of traffic would be captured by the competitor in this scenario, and if they were a representative sample of all Bell Canada's customers, only 65 per cent of the 20 per cent would reduce their net monthly bills. Thus, 13 per cent (0.2 x 65) would experience a lower net monthly bill and the remaining subscribers would experience higher monthly bills.

The exhibit also indicates that the percentage of subscribers who would experience lower monthly bills varies from company to company and by customer type. The differences reflect the nature of current (1986 or 1987) long distance and local bills. In general, a greater percentage of residential as opposed to business customers would experience lower monthly bills.

Various considerations could change the percentages of subscribers who would experience lower bills with long distance competition. The analysis discussed above was based on the assumption that the likelihood of a subscriber switching to the competitor would not depend on the size of the subscriber's monthly telephone bill. If this assumption were to be relaxed – for instance, if only the largest long distance subscribers were to switch to the competitor – then the percentage of Bell Canada urban residential subscribers who would experience lower bills would fall below 13 per cent in the example cited. Peat Marwick indicates that in such an extreme case, only about 8 per cent of total residential and about 5 per cent of total business subscribers would experience lower bills. Thus, in this 20 per cent market share scenario, the percentage of Bell Canada subscribers who would experience lower monthly bills with long distance competition would range from 8 to 13 per cent for urban residential subscribers and from 5 to 9.6 per cent for large business subscribers. Similar calculations could be made for each category of Bell Canada customers as well as for those of the other telephone companies that submitted billing data.

Additionally, not all customers in the various geographical areas in Canada would necessarily have the same degree of availability of the competitor's services. The percentages of subscribers in rural areas who could potentially benefit from long distance competition might be even lower than the figures cited by Peat Marwick, while in urban areas a higher percentage of subscribers might benefit.

Finally, it should be noted that this bill analysis applies only to the scenario outlined above and for those companies that submitted billing data. Other scenarios and data from other companies could produce different results. For instance,

productivity changes associated with the introduction of long distance competition would have the effect of either increasing or decreasing its impact on monthly local rates with consequent changes to the results of the analysis.

6.3.2 Facilities-Based Competition in Bell Canada and B.C. Tel Serving Areas Only

The modelling exercise results indicate that the introduction of long distance competition in and between Bell Canada and B.C. Tel serving areas only would cause all Telecom Canada member companies to suffer revenue shortfalls and monthly local rate increases (Exhibits 6-9 and 6-10). This results from the fact that revenues related to Telecom Canada long-distance traffic captured by the competitor, which would otherwise be shared among its members under the RSP, would no longer be available. Peat Marwick estimates that monthly local rate increases for residential customers would range from $0.68 (or 6 per cent) in Newfoundland Tel's serving area to $1.35 (13.4 per cent) for B.C. Tel, if Bell Canada and B.C. Tel retain the contribution payments from competitors in the 25 per cent price discount with a 20 per cent competitor market share scenario. In other words, under these assumptions, whether or not a particular jurisdiction allowed competition, the local rate increases required would be of the same magnitude. According to the consultant's projections, if the contribution payments attributable to Telecom Canada traffic were included in its revenue pool and shared among member companies, those operating in areas where competition is <u>not</u> allowed would require smaller local rate increases or none at all. On the other hand, the local rate increases for Bell Canada and B.C. Tel customers would be higher.

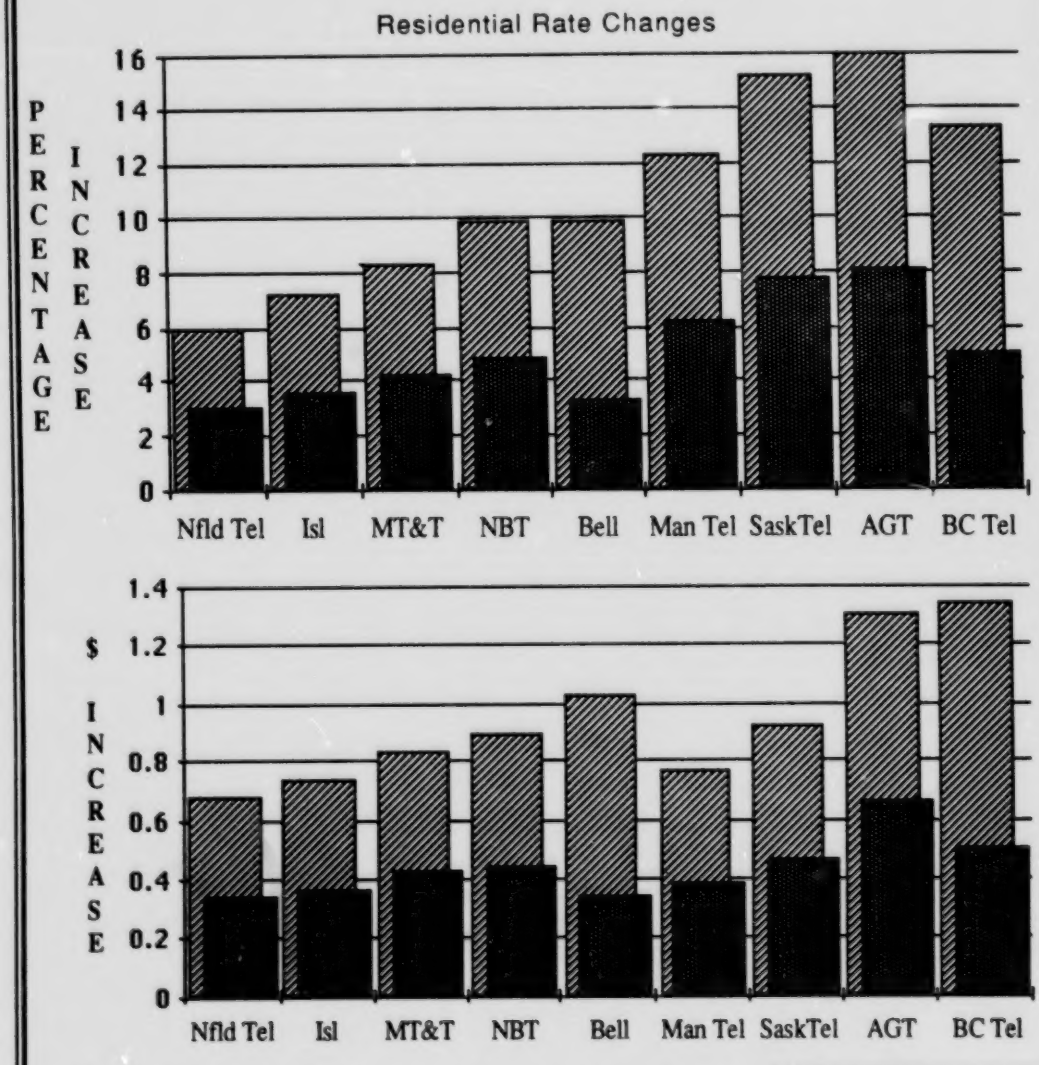
6.3.3 Resale Competition

The Peat Marwick study estimates that for Telecom Canada members residential and business monthly local rate increases in the all-Canada resale competition scenario would be, generally speaking, about twice as large as those that would occur with facilities-based competition (Exhibits 6-11 and 6-12). The consultant states that because of the smaller scale of their operations, resellers would not be able to utilize fully certain technological advances, including some traffic concentration techniques, which would be available to the telephone companies and to the facilities-based competitor. Consequently, the costs to resellers of providing long distance services would be higher. Thus, for any of the various competition scenarios, they could afford to make less contribution than the facilities-based competitor, with the result that local rate increases would need to be higher. For these reasons, the consultant argues that pure resale competition would be economically less efficient than facilities-based competition.

Finally, the consultant considered the financial effects of all-Canada competition scenarios in which 25 per cent of competing services would be offered by resellers and 75 per cent by a facilities-based carrier. As might be expected, the projected monthly local rate increases fell between those resulting with facilities-based competition and those associated with pure resale competition (Exhibits 6-13 and 6-14).

Exhibit 6-9

Estimated Effects of
Facilities-Based Long Distance Competition
In Bell Canada and B.C. Tel Serving Areas Only
on Local Rates, 1995*



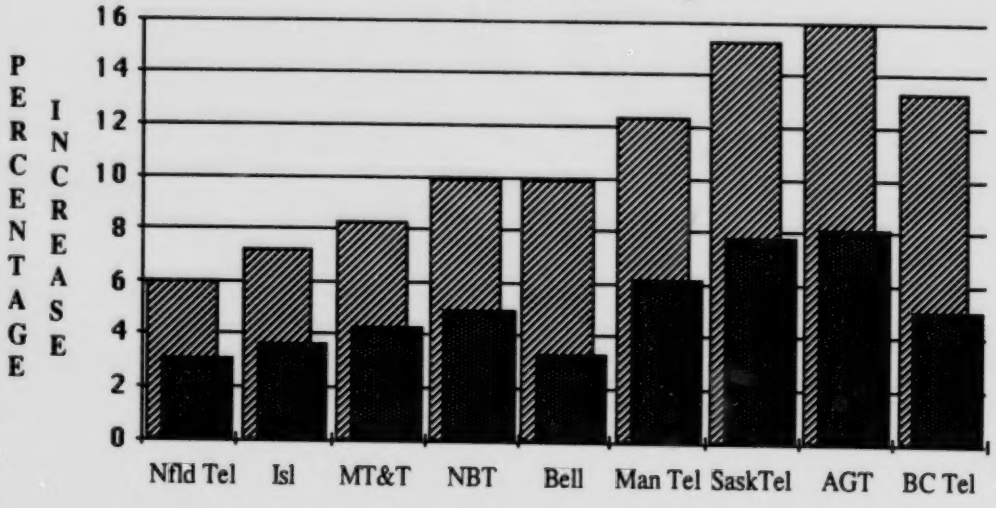
* Rate changes are for 1995 and are expressed in 1995 dollars. Assumes equal percentage changes to business and residential rates.

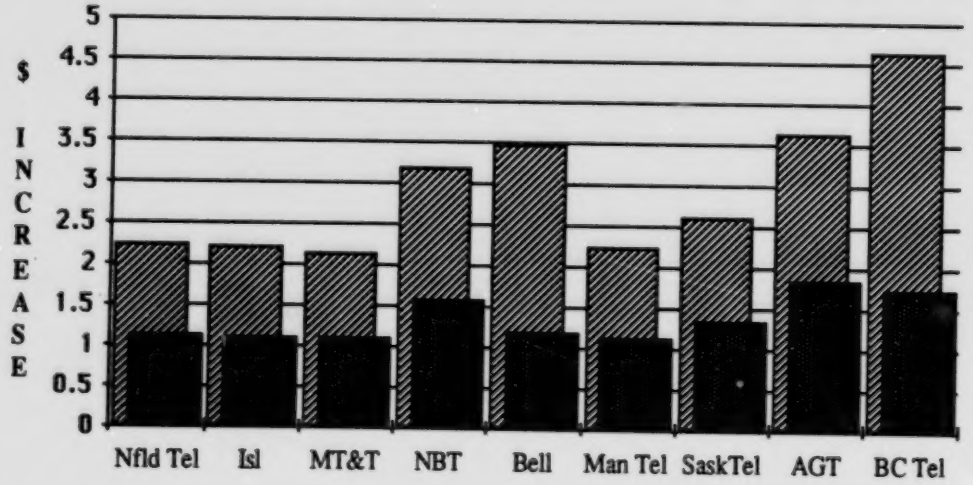
Source: Peat Marwick, study commissioned by the Task Force.

Exhibit 6-10

Estimated Effects of
Facilities-Based Long Distance Competition
In Bell Canada and B.C. Tel Serving Areas Only
on Local Rates, 1995 *

Business Rate Changes





* Rate changes are for 1995 and are expressed in 1995 dollars. Assumes equal percentage changes to business and residential rates.

Source: Peat Marwick, study commissioned by the Task Force.

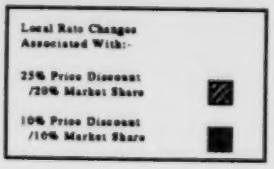
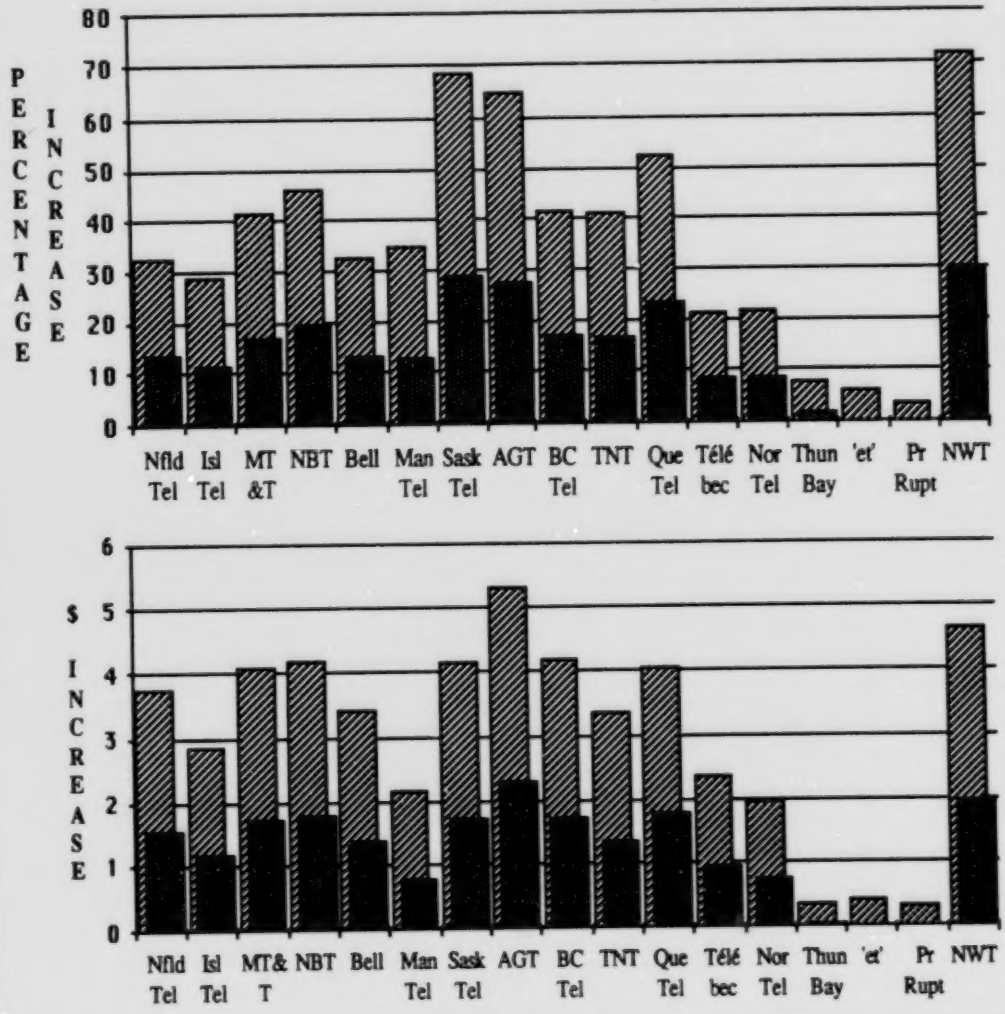


Exhibit 6-11

Estimated Effects of
Resale Long Distance Competition
on Local Rates, 1995 *

Residential Rate Changes



* Rate changes are for 1995 and are expressed in 1995 dollars. Assumes All-Canada competition and equal percentage changes to business and residential rates.

Source: Peat Marwick, study commissioned by the Task Force.

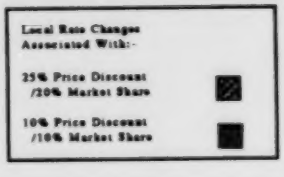
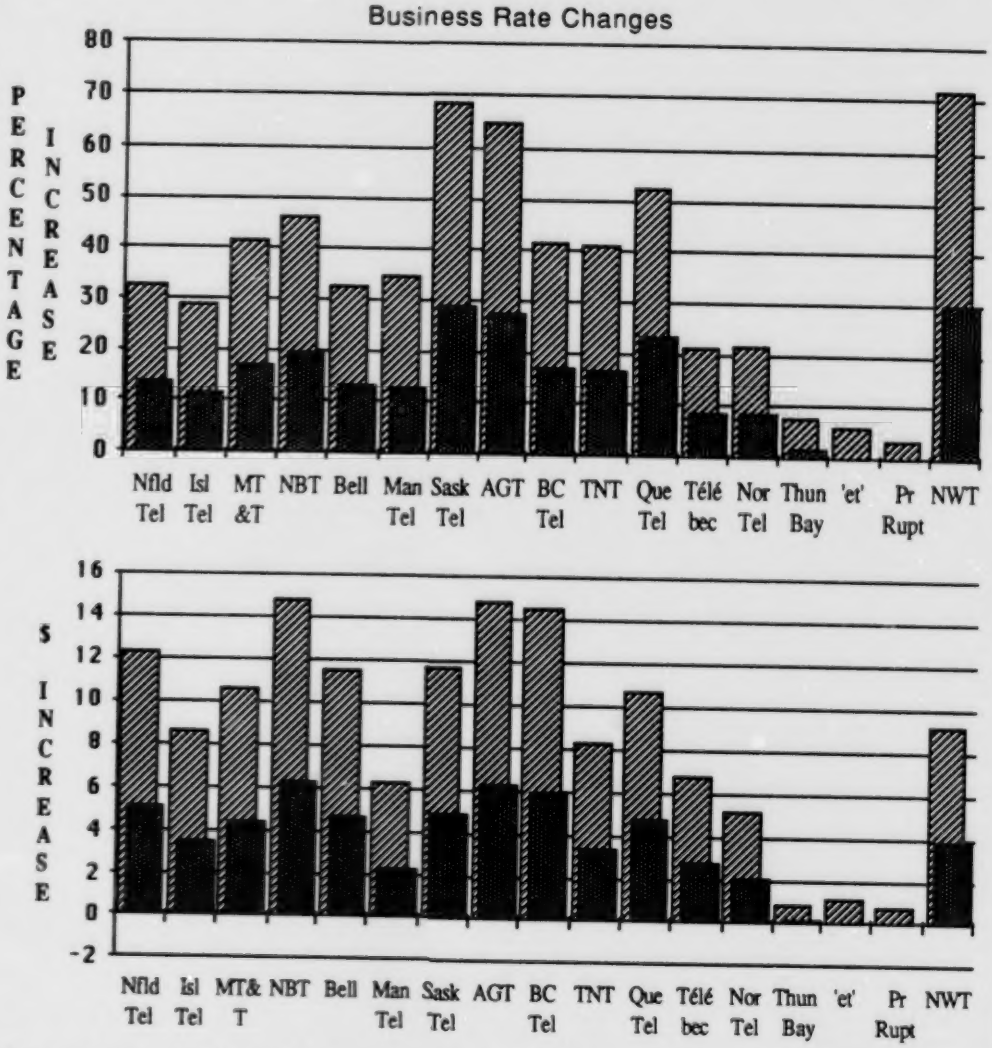


Exhibit 6-12

Estimated Effects of
Resale Long Distance Competition
on Local Rates, 1995 *

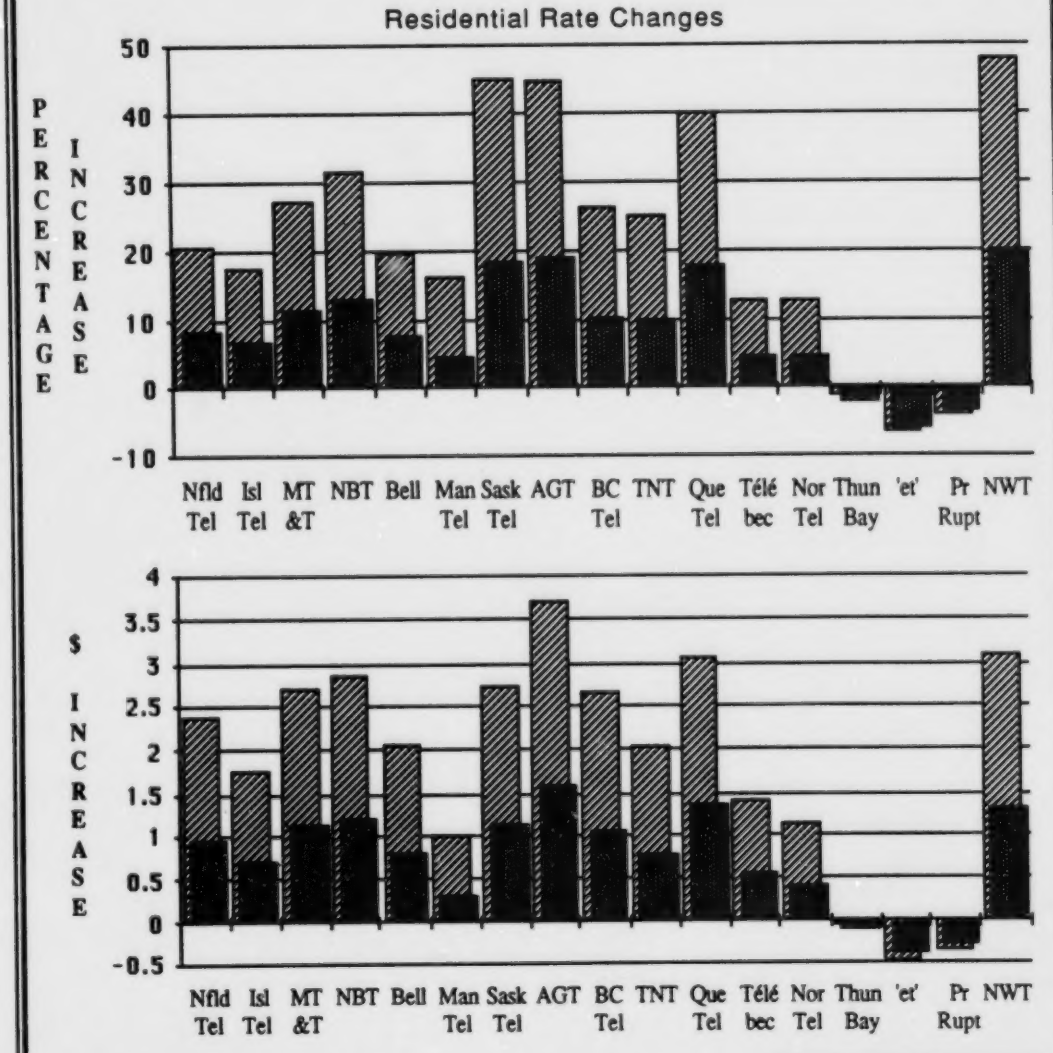


* Rate changes are for 1995 and are expressed in 1995 dollars. Assumes All-Canada competition and equal percentage changes to business and residential rates.

Source: Peat Marwick, study commissioned by the Task Force.

Exhibit 6-13

Estimated Effects of
Facilities-Based Plus Resale Long Distance Competition
on Local Rates, 1995 *

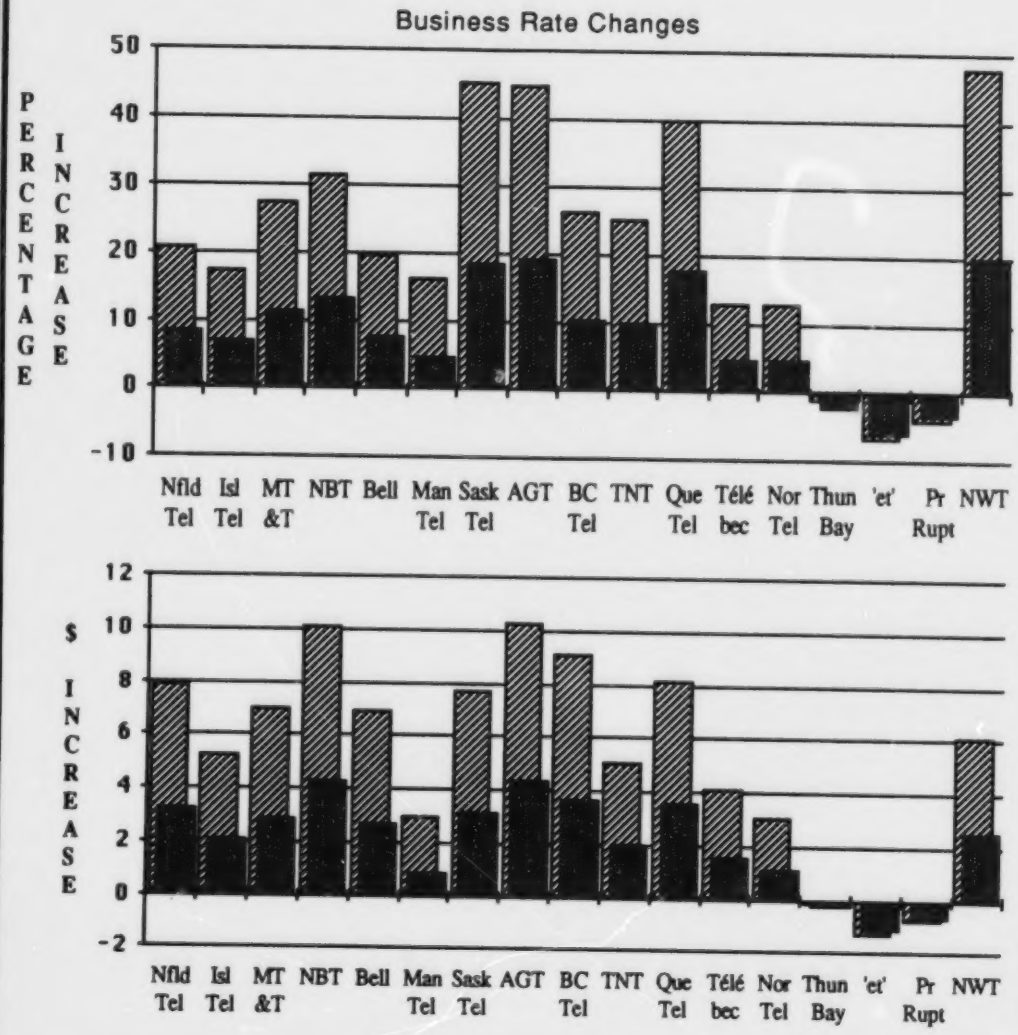


* Rate changes are for 1995 and are expressed in 1995 dollars. Assumes All-Canada competition and equal percentage changes to business and residential rates.

Source: Peat Marwick, study commissioned by the Task Force.

Exhibit 6-14

Estimated Effects of
Facilities-Based Plus Resale Long Distance Competition
on Local Rates, 1995 *



* Rate changes are for 1995 and are expressed in 1995 dollars. Assumes All-Canada competition and equal percentage changes to business and residential rates.

Source: Peat Marwick, study commissioned by the Task Force.

6.3.4 Impact of Partial Rate Rebalancing

Peat Marwick also explored the impacts of competition under conditions of local and long distance telephone rates having been partially rebalanced. The consultant assumed that local rate increases associated with rebalancing would be absorbed by subscribers in 1989. Competitive entry would then be introduced into the rate-rebalanced environment in the same year.

The results of that analysis indicate that a partial rebalancing of telephone company rates (as outlined earlier) would have very little effect on the financial viability of long distance service competitors, provided that they were permitted to pay lower contribution payments which reflect the (also lower) contributions derived from the telephone companies' long distance services in such an environment. Projected monthly local rate changes due to long distance competition would generally be smaller than if rates had not been rebalanced. (Of course, when the effects of rebalancing and competition are considered together, local rate levels were found to be considerably higher.) Nevertheless, a competitor could find it more difficult to gain market share under a rate-rebalanced regime than with status quo rates because it would be discounting its rates from an already lower level, and a given percentage rate discount would consequently amount to less in dollar terms.

6.3.5 Other Results

This section outlines the results of various sensitivity tests used to assess the effect of varying certain key assumptions contained in the Peat Marwick models. A number of fixed parameters about which there was some degree of uncertainty were tested for their potential effects on local rates. They include: the price elasticity of demand, investment elasticities, access arrangements, and the competitor's internal rate of return. In general, the impacts of the extremes of values applied were relatively small, often varying by only a few cents from the base case. Exhibit 6-15 illustrates this fact for the price elasticity of demand. In sensitivity testing for the price elasticity of demand for public long-distance telephone service, Peat Marwick used the extremes of the values found by Globerman Associates (section 4.3). The sensitivity analysis was conducted for projected residential rates for a facilities-based carrier competing throughout Canada with a 25 per cent price discount. Even at 20 per cent market penetration by the competitor, the difference in the required local rate increase from the base case with status quo rates was only $0.15 higher for the lower elasticity values and $0.22 lower for the higher values. With partial rate rebalancing these figures would drop to $0.01 and $0.03 lower, respectively.

To assess the effects of price elasticity values higher (-1.3) and lower (-0.4) than those provided for in the Globerman study, Peat Marwick also projected rate levels for 1995 in the following scenarios: (a) no entry with existing rate relationships; (b) partial rate rebalancing (as discussed above); and (c) a long distance competition scenario in which the competitor offers a 25 per cent price discount and has a 20 per cent market share. Peat Marwick estimated that, absent competition, if past growth trends are extrapolated into the future, assuming a high price elasticity of -1.3 would result in considerably higher local rates being

EXHIBIT 6-15

Price Elasticities of Demand and Local Rate Effects of Long Distance Competition

	LOW	BASE	HIGH
(A) ELASTICITIES			
Intra-company	-0.50	-0.60	-0.70
Inter-company	-0.55	-0.70	-0.85
Canada-U.S.	-0.65	-0.825	-1.00
Canada-overseas	-0.60	-0.90	-1.20
(B) MEAN RESIDENTIAL RATE INCREASE CAUSED BY COMPETITION ($/MONTH)*			
Status Quo Rates			
Mean Original Local Rate	$10.35	$9.78	$9.09
Rate Increase at 10% Market Penetration	1.11	1.05	0.95
Rate Increase at 20% Market Penetration	1.98	1.83	1.61
Rebalanced Rates			
Mean Original Local Rate	$16.77	$15.72	$14.50
Rate Increase at 10% Market Penetration	1.05	1.07	1.08
Rate Increase at 20% Market Penetration	1.86	1.87	1.84

* Assumes all-Canada competition with competitor price discount of 25%.

SOURCE: Peat Marwick, study commissioned by the Task Force.

estimated for 1995 than in the base case. The consultant indicates that, under high price elasticity assumptions, the residual (non-price) trends (which generally explain much of the traffic growth) were lower. For this reason, the projected future long distance traffic growth was less than with lower price elasticities. Consequently, with higher price elasticities a greater proportion of telephone companies' revenue requirements would have to be recovered through higher local rates. Finally, Peat Marwick projected that, assuming existing rate relationships or assuming partial rate rebalancing, higher elasticities would likely result in smaller local rate increases with competition. The inverse would be true for the low (-0.4) elasticity value.

Assuming values of investment elasticities of 0.8 rather than 0.9 for local and 0.4 rather than 0.6 for long distance services would increase local residential rate impacts without rebalancing in a 20 per cent competitor market share situation by $0.17 per month. Similarly, assuming different access arrangements would vary local rate impacts by approximately $0.08 for a wide range of scenarios.

Peat Marwick also tested the assumption that the facilities-based carrier's internal rate of return would be reduced from 13 per cent (base case) to 10 per cent, with the planning horizon extended from 10 to 15 years. The immediate result was that the competitor could afford to make a higher contribution. Exhibit 6-16 illustrates the consequent effects on local residential rates. With 20 per cent competitor market penetration, for example, the impact of competition on local rates would be reduced by $0.13.

Additionally, in each of the scenarios modelled by Peat Marwick, the breakeven productivity improvement for Telecom Canada members was calculated. This refers to the productivity improvements or other cost reduction measures that would be required by each member company to offset the impact of competition on revenues such that local rate changes would not be required. These improvements are in addition to the 5 per cent annual productivity gain that the model assumed would occur irrespective of whether competition were permitted. It will be recalled (section 4.2.2) that the empirical evidence was inconclusive as to the impact of competition on telephone company productivity. As an alternative, the offsetting productivity change necessary to avoid any local rate impact was calculated for future reference. Exhibit 6-17 presents the range of values for facilities-based competition with a 25 per cent price discount and 20 per cent competitor market share. Percentage productivity improvements or cost reductions in the range of 1.39 to 4.83 per cent of total costs for various Telecom Canada members would be required by 1995 to avoid local rate increases.

Peat Marwick also ran the model to assess the effects of stimulating the entire public long-distance telephone service market.[115] One study from the U.S. indi-

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[115] The Globerman Associates study commissioned by the Task Force concludes that competitive entry would not have a significant effect on the market price elasticity of demand and, if anything, might reduce it slightly.

EXHIBIT 6-16

Competitor Rate of Return and Local Rate Effects of Long Distance Competition*

SCENARIO	CONTRIBUTION PAYMENT** ($1995 CENTS/MINUTE)		LOCAL RESIDENTIAL RATE INCREASE ($1995/MONTH)	
	13% RETURN	10% RETURN	13% RETURN	10% RETURN
10% Market Penetration	7.25 cents	7.78 cents	$1.05	$0.95
20% Market Penetration	7.92 cents	8.30 cents	$1.83	$1.70

* Assumes all-Canada competition with competitor price discount of 25%.

** Contribution payments are made twice; once at each end of the call.

SOURCE: Peat Marwick, study commissioned by the Task Force.

EXHIBIT 6-17

Productivity Improvements or Cost Reductions Required to Offset the Impacts of Competition*

COMPANY	BREAKEVEN PRODUCTIVITY IMPROVEMENTS OR COST REDUCTIONS (Percentage)
Nfld Tel	3.53%
Island Tel	3.43
MT&T	4.20
NBTel	4.63
Bell Canada	3.15
Manitoba Tel	1.39
SaskTel	3.95
AGT	4.83
B.C. Tel	4.01

* Competition by facilities-based carrier; all-Canada competition with 25% price discount and 20% competitor market share.

SOURCE: Peat Marwick, study commissioned by the Task Force.

cates, for example, that advertising can to a certain extent achieve this result.[116] Peat Marwick notes that revenue stimulation could also result from the availability of a large number of pricing schemes, such as would be available in a competitive environment.[117] Because it was not possible to determine a discrete amount by which the market could be stimulated by such factors, the Task Force adopted the procedure of determining the revenue impacts of stimulating volume by 1, 3 and 5 per cent, respectively. No additional advertising costs were assumed for this purpose, though it was generally assumed that advertising expenditures would be higher in competitive scenarios than in monopoly scenarios. The results obtained for the scenario in which telephone companies lose 20 per cent of the long distance market and the competitor discounts long distance rates by 25 per cent, indicate that each additional percentage point of long distance market stimulation would reduce average 1995 monthly residential rates by approximately $0.22 (1995 dollars) for Telecom Canada members and by approximately $0.14 for non-Telecom Canada telephone companies.

Peat Marwick also explored the possibility of competitors paying no contribution. The full impact of long distance competition on local rates could then be assumed to be absorbed entirely by telephone company subscribers, resulting in much higher local rate increases. Competitors could, as a consequence, offer substantial price discounts. For example, in the case of a facilities-based carrier with a 20 per cent market share, the discount possible would be in the order of 65 per cent. With such a discount, the competitor would also likely gain substantially from traffic stimulation. This is, however, a somewhat unrealistic scenario and was therefore not explored further.

6.4 Interjurisdictional Impacts of Competition

The Peat Marwick analysis of competition in public long-distance telephone service in Canada indicated that a number of interjurisdictional impacts would occur in the various scenarios considered. Such impacts could flow from one jurisdiction to another in cases where competition occurs in both as well as where

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[116] James M. Griffin, "The Welfare Implications of Externalities and Price Elasticities for Telecommunications Pricing," The Review of Economics and Statistics, Vol.64, No.1, 1982, pp.59-66. The study used pooled long distance quarterly data (1966 to 1978) for telephone companies in five southwestern states in microeconomic equations and showed that advertising resulted in positive net revenues. This result held for the companies and timeframe studied, but the author indicates that while diminishing returns result from increased expenditure on advertising, net positive revenues can be expected until marginal costs equal marginal revenues.

[117] Peat Marwick indicates that market stimulation from pricing schemes occurred, for example, in air travel when fares were deregulated and the airlines were able to introduce a great variety of discount schemes. The Economics and Technology study commissioned by the Task Force also indicates (as discussed in section 4.1.1) that numerous pricing schemes were developed in the U.S. as a consequence of long distance competition.

competition is allowed in only one jurisdiction. They include impacts flowing from one company or group of companies to one or more other companies as well as from one regulatory jurisdiction to another or others.

The Peat Marwick model indicates that interjurisdictional rate impacts would flow to all companies in the form of local rate differentials. That is, given the assumptions of the modelling exercise, the various companies would be affected differently. These effects occur because of the assumptions that: (a) competitor contributions would be made on an averaged basis, and (b) they would be made directly to the originating and terminating telephone companies. Individual companies would experience either a revenue surplus or a shortfall based on the difference between contribution payments received and other financial effects transmitted through revenue settlement procedures. Those companies whose contributions to common costs were largest before competition would experience the greatest effects of changes in contribution. Such companies would need to take more measures (for example, local rate increases) to offset revenue decreases anticipated in a competitive environment.

In cases where competition occured within and between Telecom Canada member serving areas, but not in those of the non-Telecom Canada companies, no interjurisdictional impacts were estimated by the model. The model assumed that government policy or regulation would prevent competitors from terminating traffic in the serving areas of the non-Telecom Canada companies. All connecting agreements would be with the Telecom Canada companies and, consequently, no impacts would flow to non-Telecom Canada companies. In practice, however, it would be difficult to prevent at least some traffic from being terminated in the serving areas of non-Telecom Canada companies if resale of WATS were allowed. Some revenue loss by these companies would therefore occur, since the settlements associated with WATS traffic yield less revenue to them than does MTS.

An example of interjurisdictional impacts flowing from a jurisdiction where competition is allowed to others where it is not is provided by the model results for competition in and between Bell Canada and B.C. Tel serving areas only. Despite the fact that other Telecom Canada members would not permit competition in either originating or terminating traffic in this scenario, they would still experience substantial revenue shortfalls. This results from lost contribution revenues in the Telecom Canada revenue settlement pool. As discussed above, member companies would be affected differently depending on their normal levels of reimbursement from the pool. As with the non-Telecom Canada companies, it would be possible for competitors to terminate calls in non-competitive serving areas and possibly avoid detection. This would increase the negative revenue impacts since some MTS traffic would be moved to WATS, which makes a lower contribution to common costs.

The previous discussion relied on the results of the model to predict interjurisdictional impacts. The model assumed that telephone companies would not be able to respond to competitors' price discounts with similar discounts of their own. If telephone companies in areas where competition exists could reduce long distance rates, the potential exists for substantial rate imbalances to develop in some scenarios. If, for instance, competition existed in Bell Canada and B.C. Tel

serving areas but not elsewhere, or if it were introduced in those of Telecom Canada members but not in those of the independents, significant rate differences would arise. Imbalances in calling patterns could also result as customers would seek to originate calls in the least expensive serving area. Overall net revenue loss would result, and there would be considerable pressure from customers for telephone companies to bring their rates in line with those companies selling MTS/WATS at a lower price.

6.5 Summary of the Financial Modelling Exercise

The Peat Marwick study examined the financial effects of introducing long distance competition in Canada under various scenarios. The results suggest that if conditions were set to ensure the financial viability of a facilities-based long distance service provider in the scenarios considered, all customers of most telephone companies would pay moderately higher local rates. Only a small percentage of customers were assumed to avail themselves of the lower long distance rates of the competitor.

The model inputs assumed that at the start of its operations, the facilities-based competitor would have to offer significant price discounts in order to penetrate the long distance market. Its initial costs of providing long distance service would likely be higher than those of the established telephone companies. Regulatory supervision and surveillance would be required to overcome this barrier to market entry and to ensure its survival. Over the start-up period, a significant contribution payment discount would have to be given to competitors. The modelling results also indicate that at a 20 per cent market share, the incremental costs of the competitor and the telephone companies would be approximately the same, and the competitor would then be in a position to pay a larger contribution than initially, even while maintaining the same price discount. A contribution discount would, however, continue to be required so long as a price discount was maintained by the competitor.

7.0 SUMMARY AND CONCLUSIONS

This report responds to a request by Ministers responsible for Communications for information to assist in their review of the desirability of competition in public long-distance telephone service. The study was conducted by a Task Force of federal, provincial and territorial telecommunications regulators and, in some cases, government representatives. It presents the results of an examination of the factors that would be related to the potential introduction of competition in public long-distance telephone service in Canada.

The Task Force conducted a review of the approaches to and impacts of long distance competition in various countries. The U.S., with its two-tier federal/state regulatory system, permitted long distance competition first at the federal level and subsequently in most states. Major changes have been made in the U.S. to both its telecommunications industry structure and regulatory practices which permit competition in long distance services, yet largely insulate the monopoly local telephone companies from the effects of such competition. Key elements of the U.S. approach include the establishment of Local Access and Transport Areas (LATAs) and the development of means whereby long distance carriers can access the customers of the local telephone companies on equal terms and conditions, and contribute to the recovery of the non-traffic sensitive costs of providing telephone service. A LATA is defined as an area generally encompassing a major population centre (in some cases an entire state) within which telephone companies generally operate on a monopoly basis for the provision of local and intraLATA long distance services. (Some states have recently begun to allow intraLATA competition.) Local telephone companies are obligated to provide all authorized long distance carriers access to customers located throughout their respective LATAs. The Federal Communications Commission and some state regulators have developed various carrier access charge programs to ensure that local telephone companies are compensated for their obligation to provide interconnection to competitive long distance carriers. These programs also provide for a continuing flow of funds to support the provision of local telephone service. Thus, local telephone service, including service to rural and remote areas, has not been jeopardized by competition in public long-distance telephone service.

While the U.S. has experienced substantial telephone rate changes in recent years, these are attributable to regulatory initiatives other than the introduction of competition. Between 1977 and 1980, the price index fell for both local and long distance telephone service. Since the early 1980s, the local telephone service price index has increased substantially, while the interstate and intrastate long distance price indices have decreased substantially. The overall telephone service price index has increased, except in 1987 when a decrease was observed, probably attributable to corporate income tax reductions and other economic factors.

The United Kingdom and Japan have permitted competition with the former state-owned monopoly provider of telephone service. Different approaches have, however, been adopted in these two countries. The U.K. has limited competition to one new entrant, and it has allowed that entrant to provide services on its own

long distance network, sometimes also using its own local network, but mostly using the local network of the telephone company. The competitor may provide services in areas of its own choosing and without any requirement to make contribution payments to support the provision of local service. Japan has chosen an industry structure based on a division between facilities-based carriers and resale carriers, with relatively large numbers of new entrants in each category. Despite an apparent large cross-subsidy from long distance to local service that is inherent in the rate structure of the former monopoly supplier, new entrants are not required to contribute to the provision of local service.

In analyzing available information regarding the foreign experience, it was not possible to link conclusively various aspects of service provision to long distance competition. In the U.S., the effects of competition have been obscured by other factors - the restructuring of the industry, rate changes mandated by regulators, changes to depreciation practices, tax changes, etc. Thus, although the rates for local telephone service have been increased and long distance rates have been lowered, such rate changes can be ascribed in large part to the above factors rather than competition per se. In the U.K. and Japan, there has been insufficient time since competition was permitted to allow any significant impacts to be observed.

From a technical and operational point of view, the U.S. experience appears to indicate that competition in that country has resulted more in pricing variety than service innovation. While service innovation has occurred, it cannot be conclusively stated to result from long distance competition. Cost information pertaining to economies of scale and scope and productivity is similarly inconclusive. Despite the lack of a conclusive link to competition, the report presents qualitative and theoretical information which suggests a number of likely impacts of long distance competition.

The uncertainty regarding the linkage of long distance competition to various factors that may affect the aggregate price level for telephone service (economies of scale and scope, productivity, etc.) make it difficult to determine the macroeconomic effects of competition. To the extent, however, that there was rate restructuring as a result of competition or regulatory action - either lower long distance rates or long distance rate reductions together with offsetting local rate increases, leaving telephone company profitability unchanged - modest but positive macroeconomic benefits would result.

The Task Force has estimated that the costs of modifying the existing telephone network to provide competitors with switched access to the local exchange would range from zero to approximately $213 million, depending on the type of access and the number of communities involved. Ongoing costs of access were estimated to be $0.02 per minute at both the originating and terminating ends of a long distance call. Finally, a study commissioned by the Task Force found that the price elasticity of demand, which measures the responsiveness of quantity demanded to changes in prices, holding all other factors constant, is generally inelastic for public long-distance telephone service.

The report outlines three general competition models for consideration within the Canadian context. One model postulates a fully competitive, open market in which neither existing telephone companies nor new entrants would be regulated with respect to the provision of public long-distance telephone service. Another model entails fully regulated competition in which all participants would be regulated. A third model outlines a situation in which only dominant carriers would be regulated, leaving non-dominant carriers with virtual freedom to enter and exit the market, and to provide services as the market dictates.

A key finding from the studies commissioned by the Task Force is that new facilities-based carriers would require, at least over the start-up period, a price advantage relative to the telephone companies to allow them to enter the long distance market and survive. No combination of service features or other non-price benefits would enable facilities-based carriers to compete without a price advantage. Based on subscriber expectations, price reductions of at least 10 per cent would be required.

The report also outlines various competition scenarios which relate to the specific geographical, jurisdictional and industry structural issues that could shape the particular nature of competition in Canada. For example, competition could be permitted: (a) on an extra-provincial/extra-territorial basis only (with the exception that competition would be on an extra-company basis for companies whose serving areas cross provincial or territorial boundaries), that is, for inter-provincial, Canada-U.S. and Canada-overseas long distance calling only; (b) on an extra-provincial/extra-territorial plus, in some jurisdictions, on an inter-regional basis (the latter would resemble the U.S. LATA approach); or (c) on an extra-provincial/extra-territorial and intra-provincial/intra-territorial basis in selected communities across the country. The report also explores scenarios in which competition would be allowed only on heavy traffic routes or in targeted market areas, and in which a permissive approach to international competition would be adopted. These scenarios provide a range of possible approaches whereby competition could be introduced in the Canadian environment.

Finally, the report presents the results of a consultant's financial analysis of potential long distance competition in Canada. The analysis was conducted for scenario (c) above - that is, where competition would occur on an extra-provincial/extra-territorial and intra-provincial/intra-territorial basis in selected communities across Canada. For modelling purposes, competitors were assumed to be financially viable. The model indicates that for competitors to be financially viable it would be necessary to provide them with a significant discount in contribution payments (to support the recovery of subscriber access costs) over the start-up period, and that such a discount would likely translate into higher monthly local rates. At a 20 per cent competitor market share, the incremental costs of the competitor and telephone companies were estimated to be approximately the same, and the competitor would then be in a position to pay a larger contribution payment than initially, even while maintaining the same price discount. A contribution discount would, however, continue to be required so long as a price discount was maintained by the competitor.

APPENDIX A

LIST OF TASK FORCE PARTICIPANTS

APPENDIX A

LIST OF TASK FORCE PARTICIPANTS

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APPENDIX B

CARRIER ACCESS TYPES AND COSTS

APPENDIX B

CARRIER ACCESS TYPES AND COSTS

The first portion of this Appendix presents a more detailed description of each switched access type than was outlined in section 4.2.3 of the report. Subsequently, estimated telephone company local network modification costs to establish the various access types and ongoing costs of using such arrangements are presented.

Description of Access Types

The Task Force studied sixteen access variations within six general categories by which telephone companies could make the long distance services of competitors accessible to their customers. Each access type has the following general characteristics:

(1) **Type A Access**

- The alternative long distance service provider's "point of presence" is connected to the "line side" of the telephone company's local office (originating and terminating telephone companies);
- the alternative service provider's point of presence could be a switching machine or the remote appearance of a switching machine termination;
- line side connection is the same type of connection used for private branch exchanges or individual business lines;
- two-stage dialling is required: first, to access the long distance carrier's point of presence and, second, to provide a personal identification number and the called number.

(2) **Type B Access**

- The alternative service provider's point of presence is connected to the trunk side of the telephone company's local office (available only from digital offices);
- this form of access provides improved transmission and traffic characteristics;
- dialling procedures are the same as Type A access.

(3) Type C Access

- The alternative service provider's point of presence is connected to the trunk side of the telephone company's local office (C1 and C2), a local tandem office – an intermediate switch (C3 and C4), or a toll office (C5 and C6); in each, variations depend on whether or not automatic number identification (ANI) is available;

- two-stage dialling is required; however, the alternative service provider is assigned a universal 950-0XXX number (i.e., a customer could use the same number in any local exchange throughout Canada so equipped to reach the desired alternative service provider). With ANI, in the second dialling stage a personal identification number would not be required.

(4) Type D Access

- The alternative service provider's point of presence is connected to the telephone company's toll office; variations D1 and D2 depend on whether or not ANI is available;

- two-stage dialling is required; customers dial 1 plus the universal 950-0XXX number to access the desired alternative service provider.

(5) Type E Access

- The alternative service provider's point of presence is connected to the trunk side of the telephone company's local office (E1), a local tandem office (E2), or a toll office (E3);

- ANI, answer and disconnect supervision, and trunk-type signalling are provided in all cases;

- single stage dialling is provided: the customer dials a five-digit universal prefix assigned to the long distance carrier (10-XXX) plus the called number;

- each long distance carrier is assigned a unique XXX code.

(6) Type F Access

- Comparable to "equal access" in the United States. The alternative service provider's point of presence is connected to the trunk side of the telephone company's local office (F1), a local tandem office (F2), or a toll office (F3);

- the customer dials 1 plus the called number when using the preselected carrier (either the telephone company or an alternative

service provider which has been chosen as the preferred long distance service provider);

- the customer dials the five-digit universal prefix (10-XXX) plus the called number to use other carriers, including the telephone company when it has not been preselected.

Costs of Access

Detailed costs of modifying telephone companies' local networks to establish the various access types and the ongoing costs of using such arrangements (per conversation minute at each end of a long distance call) were estimated by the Task Force. The following tables were developed from information supplied by the telephone companies. In some cases, they requested that the information supplied for this purpose be used in confidence. Consequently, in the tables that follow, the calculated costs have been deleted for those companies. However, except where otherwise stated, those costs are included in the aggregated figures presented in the report.

Costs were calculated for the following competition scenarios:

(a) Routes over which competition could develop:

- between extended area service centres having 100,000 or more network access services;

- between extended area service centres having 25,000 or more network access services (Table B-1 provides a listing of the communities that fall into these two categories); and

- among all centres.

(b) Variations in the market share of alternative service providers:

- 10 per cent market share in the areas served by competing carriers;

- 20 per cent market share in the areas served by competing carriers.

Table B-2 presents the percentages of telephone company subscribers that it would be possible to serve with each access type. Because of the limitations of the facilities used by some telephone companies, it would not be possible to serve all customers with certain access types. Tables B-3 to B-5 summarize the modification costs for the telephone companies by the size of the extended area service centre and for all centres. Tables B-6 to B-8 present ongoing costs by the same access categories and depending on the market share of alternative service providers.

The computed values were obtained using representative costs selected after review of figures supplied by the various telephone companies. Thus, they give relative order of magnitude costs only. These were deemed sufficient for the purposes of the study, but they do not represent actual costs. Precise determination of the actual costs would require detailed study of the local network architecture and specific proposed connection arrangements (which would likely be composed of a mix of the variants presented in the tables that follow).

Table B-1 - Large Extended Area Service (EAS) Centres

Company	Centres With More Than 100,000 Network Access Services	Centres With Between 25,000 and 100,000 Network Access Services
B.C. Tel	Vancouver Victoria	Abbotsford Kamloops Kelowna Nanaimo Prince George
AGT 'el'	Calgary Edmonton	Lethbridge Red Deer
SaskTel	Regina Saskatoon	
Manitoba Tel	Winnipeg	Brandon
Bell Canada	Hamilton Kitchener-Waterloo London Montreal Ottawa-Hull Quebec City Sherbrooke St. Catherines Toronto Windsor	Barrie Belleville Brantford Chatham Chicoutimi Cornwall Drummondville Galt Granby Guelph Joliette Kingston Milton Newmarket North Bay Oshawa Peterborough St. Jean St. Jerome Sarnia Sault Ste. Marie Shawinigan Sudbury Trois Rivières Valleyfield Welland
Québec-Tél Thunder Bay		Rimouski Thunder Bay
NBTel		Fredericton Moncton Saint John
Island Tel		Charlottetown
MT&T	Halifax	Sydney
Nfld Tel		St. John's

TABLE B-2 - % OF SUBSCRIBERS SERVICED

CENTRES WITH >100,000 NAS	A	B	C1	C2	C3	C4	C5	C6	D1	D2	E1	E2	E3	F1	F2	F3
AGT	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	94.94%	94.94%	94.94%
Bell Canada	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	91.34%	91.34%	91.34%
B.C. Tel	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
MT&T	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	99.24%	99.24%	99.24%
Manitoba Tel	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
'et'	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Québec-Tél (Quebec City EAS)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Télébec (Quebec City EAS)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	0.00%	0.00%	0.00%
CENTRES WITH >25,000 NAS																
AGT	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	95.68%	95.68%	95.68%
Bell Canada	100.00%	99.23%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	93.63%	93.63%	93.63%
B.C. Tel	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	99.25%	99.25%	99.25%
Island Tel	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	95.27%	95.27%	95.27%
MT&T	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	98.91%	98.91%	98.91%
Manitoba Tel	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	99.96%	99.96%	99.96%
NBTel	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Newfoundland Tel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
'et'	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Québec-Tél	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Télébec	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	40.18%	40.18%	40.18%
Thunder Bay	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
ALL CENTRES																
AGT	100.00%	100.00%	100.00%	100.00%	70.38%	70.38%	100.00%	100.00%	100.00%	100.00%	100.00%	70.38%	100.00%	96.96%	67.34%	96.96%
Bell Canada	100.00%	87.79%	100.00%	100.00%	86.75%	86.75%	99.93%	99.93%	100.00%	100.00%	99.93%	86.75%	99.93%	86.57%	81.22%	86.57%
B.C. Tel	100.00%	96.27%	100.00%	100.00%	75.17%	75.17%	100.00%	100.00%	100.00%	100.00%	99.95%	75.17%	99.95%	90.03%	74.61%	90.03%
Island Tel	100.00%	82.55%	100.00%	100.00%	58.68%	58.68%	100.00%	100.00%	100.00%	100.00%	100.00%	58.68%	100.00%	84.30%	55.90%	84.30%
MT&T	100.00%	86.17%	100.00%	100.00%	58.30%	58.30%	100.00%	100.00%	100.00%	100.00%	100.00%	58.30%	100.00%	93.26%	57.67%	93.26%
Manitoba Tel	100.00%	98.10%	100.00%	100.00%	41.55%	41.55%	100.00%	100.00%	100.00%	100.00%	99.86%	41.55%	99.86%	99.09%	41.53%	99.09%
NBTel	100.00%	96.83%	100.00%	100.00%	57.98%	57.98%	100.00%	100.00%	100.00%	100.00%	100.00%	57.98%	100.00%	96.83%	57.98%	96.83%
Newfoundland Tel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Amtelecom	100.00%	50.08%	100.00%	100.00%	0.00%	0.00%	100.00%	100.00%	100.00%	100.00%	50.08%	0.00%	50.08%	50.08%	0.00%	50.08%
'et'	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Northern Telephone	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Northwestel	100.00%	56.26%	100.00%	100.00%	0.00%	0.00%	100.00%	100.00%	100.00%	100.00%	79.49%	0.00%	69.51%	73.26%	0.00%	63.28%
Ontario Northland	100.00%	0.00%	100.00%	100.00%	0.00%	0.00%	100.00%	100.00%	100.00%	100.00%	100.00%	0.00%	100.00%	100.00%	0.00%	100.00%
Prince Rupert City Tel	100.00%	0.00%	100.00%	100.00%	0.00%	0.00%	100.00%	100.00%	100.00%	100.00%	100.00%	0.00%	100.00%	100.00%	0.00%	100.00%
Québec-Tél	100.00%	100.00%	100.00%	100.00%	14.86%	14.86%	100.00%	100.00%	100.00%	100.00%	100.00%	14.86%	100.00%	100.00%	14.86%	100.00%
Télébec	100.00%	47.94%	100.00%	100.00%	8.05%	8.05%	100.00%	100.00%	100.00%	100.00%	100.00%	8.05%	100.00%	64.02%	3.24%	64.02%
TerraNovaTel	100.00%	13.53%	100.00%	100.00%	0.00%	0.00%	100.00%	100.00%	100.00%	100.00%	28.68%	0.00%	28.68%	28.68%	0.00%	28.68%
Thunder Bay	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

Note: Figures generated by the Task Force were estimated from data submitted by telephone companies.

* Underlying data submitted in confidence.

TABLE B-3 - MODIFICATION COST SUMMARY - EAS CENTRES WITH > 100,000 NAS

TOTAL COST ($000)	A	B	C1	C2	C3	C4	C5	C6	D1	D2	E1	E2	E3	F1	F2	F3
AGT	0	118	101	101	107	1817	107	237	107	237	2663	4379	2799	5828	8058	6444
Bell Canada	0	590	21182	21182	21210	29762	21235	22474	801	2040	68988	77568	70280	67648	78798	73500
B.C. Tel	0	0	123	123	123	123	296	361	296	361	7576	7576	7814	17407	17407	17885
MT&T	0	59	248	248	251	1106	251	316	42	107	1733	2591	1801	2511	3626	2819
Manitoba Tel	0	59	62	62	64	920	67	198	67	198	226	1084	362	1710	2825	2326
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
'et'	0	59	67	67	70	925	67	67	67	67	396	1254	396	2848	3963	2848
Québec-Tél (Quebec City EAS)	0	0	3	3	3	3	6	71	6	71	85	85	153	85	85	393
Télébec (Quebec City EAS)	0	0	201	201	201	201	201	201	0	0	201	201	201	0	0	0
Total (excluding SaskTel)	0	885	21987	21987	22029	34857	22229	23925	1385	3081	81868	94738	83806	98037	114762	106215
COST PER LINE																
AGT	0.00	0.18	0.16	0.16	0.17	2.80	0.17	0.37	0.17	0.37	4.11	6.76	4.32	9.47	13.10	10.47
Bell Canada	0.00	0.10	3.56	3.56	3.57	5.00	3.57	3.78	0.13	0.34	11.60	13.04	11.82	12.45	14.50	13.53
B.C. Tel	0.00	0.00	0.12	0.12	0.12	0.12	0.29	0.35	0.29	0.35	7.41	7.41	7.64	17.02	17.02	17.49
MT&T	0.00	0.24	1.00	1.00	1.01	4.45	1.01	1.27	0.17	0.43	6.97	10.42	7.24	10.17	14.69	11.42
Manitoba Tel	0.00	0.14	0.14	0.14	0.15	2.12	0.16	0.46	0.16	0.46	0.52	2.50	0.84	3.95	6.52	5.37
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
'et'	0.00	0.13	0.15	0.15	0.15	2.00	0.15	0.15	0.15	0.15	0.86	2.71	0.86	6.15	8.56	6.15
Québec-Tél (Quebec City EAS)	0.00	0.00	0.29	0.29	0.29	0.29	0.57	7.25	0.57	7.25	8.71	8.71	15.68	8.71	8.71	40.27
Télébec (Quebec City EAS)	0.00	0.00	110.00	110.00	110.00	110.00	110.00	110.00	0.00	0.00	110.00	110.00	110.00			

Note: Figures generated by the Task Force were estimated from data submitted by telephone companies.

* Underlying data submitted in confidence.

TABLE B-4 - MODIFICATION COST SUMMARY - EAS CENTRES WITH > 25,000 NAS

TOTAL COST ($000)	A	B	C1	C2	C3	C4	C5	C6	D1	D2	E1	E2	E3	F1	F2	F3
AGT	0	236	107	107	118	3539	113	243	113	243	2669	6101	2805	5982	10442	6598
Bell Canada	0	2006	44563	44563	44664	75451	44644	46535	1114	3005	107072	137960	109044	86091	126231	95023
B.C. Tel	0	0	155	155	666	666	556	556	556	556	9574	10085	9975	23977	24488	24378
Island Tel	0	59	16	16	19	874	19	84	19	84	44	902	112	154	1269	462
MT&T	0	118	265	265	271	1981	271	401	62	192	2114	3830	2250	3005	5235	3621
Manitoba Tel	0	118	70	70	76	1786	78	274	78	274	244	1960	448	1864	4094	2788
NBTel	0	177	31	31	39	2605	36	167	36	167	31	2605	167	1210	4555	1826
Newfoundland Tel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
'et'	0	59	67	67	70	925	67	67	67	67	396	1254	396	2848	3963	2848
Québec-Tél	0	59	6	6	8	864	11	142	11	142	88	946	224	162	1277	778
Télébec	0	0	647	647	647	647	647	647	17	17	693	693	693	77	77	77
Thunder Bay	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	0	3068	46042	45995	46657	92838	46519	49388	2151	5020	125369	172212	128762	130076	190797	144029
COST PER LINE																
AGT	0.00	0.31	0.14	0.14	0.16	4.67	0.15	0.32	0.15	0.32	3.52	8.04	3.70	8.24	14.39	9.09
Bell Canada	0.00	0.28	6.12	6.12	6.14	10.37	6.13	6.39	0.15	0.41	14.71	18.96	14.98	12.63	18.52	13.94
B.C. Tel	0.00	0.00	0.12	0.12	0.53	0.53	0.44	0.44	0.44	0.44	7.66	8.07	7.98	19.34	19.75	19.66
Island Tel	0.00	1.55	0.42	0.42	0.49	22.97	0.49	2.21	0.49	2.21	1.15	23.70	2.93	4.25	35.01	12.74
MT&T	0.00	0.38	0.86	0.86	0.88	6.41	0.88	1.30	0.20	0.62	6.84	12.39	7.28	9.83	17.13	11.85
Manitoba Tel	0.00	0.26	0.15	0.15	0.17	3.90	0.17	0.60	0.17	0.60	0.53	4.28	0.98	4.07	8.95	6.09
NBTel	0.00	0.86	0.15	0.15	0.19	12.66	0.18	0.81	0.18	0.81	0.15	12.66	0.81	5.88	22.13	8.87
Newfoundland Tel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
'et'	0.00	0.13	0.15	0.15	0.15	2.00	0.15	0.15	0.15	0.15	0.86	2.71	0.86	6.15	8.56	6.15
Québec-Tél	0.00	1.52	0.14	0.14	0.22	22.31	0.29	3.66	0.29	3.66	2.27	24.44	5.78	4.19	32.99	20.10
Télébec	0.00	0.00	53.69	53.69	53.69	53.69	53.69	53.69	1.39	1.39	57.51	57.51	57.51	15.91	15.91	15.91
Thunder Bay	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

Note: Figures generated by the Task Force were estimated from data submitted by telephone companies.

* Underlying data submitted in confidence.

TABLE B-5 - MODIFICATION COST SUMMARY - ALL CENTRES

	A	B	C1	C2	C3	C4	C5	C6	D1	D2	E1	E2	E3	F1	F2	F3
TOTAL COST ($000)																
AGT	0	1180	160	160	118	3539	166	296	166	296	1956	6101	2092	7469	10442	8085
Bell Canada	0	5015	91683	91683	44664	75451	91781	93927	2047	4193	165883	137960	168127	98447	126231	108611
B.C. Tel	0	0	265	265	776	776	1034	1099	1034	1099	16146	16657	16980	30531	31042	31605
Island Tel	0	118	43	43	49	1759	46	111	46	111	220	1936	288	331	2561	639
MT&T	0	767	957	957	963	2673	963	1093	314	444	4705	6421	4841	5669	7899	6285
Manitoba Tel	0	1475	403	403	408	2119	414	675	294	555	1908	3624	2180	4875	7105	6107
NBTel	0	885	1073	1073	1081	3647	1078	1209	90	220	1137	3711	1273	2134	5479	2750
Newfoundland Tel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Amtelecom	0	59	17	17			17	17	17	17	3		258	77		332
'et'	0	59	67	67	70	925	67	67	67	67	396	1254	396	2848	3963	2848
Northern Telephone	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Northwestel	0		165	165			460	460	460	460	871		1166	835		1130
Ontario Northland	0		14	14			20	85	20	85	250		368	250		608
Prince Rupert City Tel	0		3	3			3	3	3	3	657		657	657		657
Québec-Tél	0	236	39	39	8	864	45	175	45	175	861	946	997	1158	1277	1774
Télébec	0	590	4035	4035	647	647	4043	4171	165	293	5187	693	5323	1706	77	2322
TerraNovaTel	0	59	353	353			356	421	356	421	256		324	525		833
Thunder Bay	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	0	12508	103915	103531	49184	96220	104757	108335	5432	9009	208219	186493	213325	165843	208563	184149
COST PER LINE																
AGT	0.00	1.10	0.15	0.15	0.16	4.67	0.15	0.27	0.15	0.27	1.82	8.04	1.94	7.15	14.39	7.74
Bell Canada	0.00	0.68	10.93	10.93	6.14	10.37	10.95	11.20	0.24	0.50	19.79	18.96	20.05	13.55	18.52	14.95
B.C. Tel	0.00	0.00	0.16	0.16	0.62	0.62	0.62	0.66	0.62	0.66	9.72	13.33	10.22	20.40	25.03	21.12
Island Tel	0.00	2.20	0.67	0.67	1.28	46.23	0.71	1.71	0.71	1.71	3.40	50.89	4.45	6.05	70.65	11.69
MT&T	0.00	1.68	1.81	1.81	3.12	8.65	1.82	2.06	0.59	0.84	8.88	20.78	9.14	11.47	25.85	12.72
Manitoba Tel	0.00	1.36	0.37	0.37	0.89	4.63	0.38	0.61	0.27	0.50	1.73	7.92	1.98	4.47	15.53	5.59
NBTel	0.00	2.57	3.02	3.02	5.25	17.72	3.04	3.41	0.25	0.62	3.20	18.03	3.59	6.21	26.62	8.00
Newfoundland Tel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Amtelecom	0.00	9.83	1.40	1.40			1.40	1.40	1.40	1.40	0.47		42.97	12.83		55.33
'et'	0.00	0.13	0.15	0.15	0.15	2.00	0.15	0.15	0.15	0.15	0.86	2.71	0.86	6.15	8.56	6.15
Northern Telephone	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Northwestel	0.00	0.00	4.60	4.60			12.80	12.80	12.80	12.80	30.48		46.65	31.71		49.67
Ontario Northland	0.00		6.49	6.49			9.08	39.30	9.08	39.30	115.85		170.53	115.85		281.74
Prince Rupert City Tel	0.00		0.35	0.35			0.35	0.35	0.35	0.35	82.13		82.13	82.13		82.13
Québec-Tél	0.00	0.91	0.15	0.15	0.22	22.31	0.17	0.67	0.17	0.67	3.31	24.44	3.83	4.44	32.99	6.81
Télébec	0.00	8.23	26.98	26.98	53.69	53.69	27.03	27.89	1.10	1.96	34.68	57.51	35.59	17.82	15.91	24.25
TerraNovaTel	0.00	7.51	6.08	6.08			6.13	7.25	6.13	7.25	15.36		19.45	31.55		50.06
Thunder Bay	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

Note: Figures generated by the Task Force were estimated from data submitted by telephone companies.

* Underlying data submitted in confidence.

TABLE B-6 - ONGOING COST SUMMARY (1986) - EAS CENTRES WITH > 100,000 NAS

	A	B	C1	C2	C3	C4	C5	C6	D1	D2	E1	E2	E3	F1	F2	F3
TOTAL COST ($000)																
10% Market Share																
AGT	2409	2434	3050	2999	2434	2426	2645	2590	2645	2590	2999	2426	2590	3269	2724	2872
Bell Canada	18068	18259	22808	22451	18259	18224	19792	19404	19792	19404	22451	18224	19404	24224	20462	21542
B.C. Tel	3246	3281	4092	4030	3281	3278	3543	3477	3543	3477	4030	3278	3477	4730	3978	4164
MT&T	611	617	774	761	617	615	672	657	672	657	761	615	657	924	779	819
Manitoba Tel	1441	1456	1824	1794	1456	1452	1582	1549	1582	1549	1794	1452	1549	2090	1748	1840
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
'et'																
Québec-Tél (Quebec City EAS)	1720	1738	2177	2141	1738	1733	1889	1850	1889	1850	2141	1733	1850	2458	2049	2160
Télébec (Quebec City EAS)	24	25	31	30	25	24	30	29	30	29	30	24	29	37	31	35
	6	6	7	7	6	6	6	6	6	6	7	6	6			
Total (excluding SaskTel)	27526	27816	34763	34215	27816	27758	30157	29561	30157	29561	34215	27758	29561	37731	31771	33432
20% Market Share																
AGT	4818	4868	6098	5997	4868	4852	5290	5180	5290	5180	5997	4852	5180	6535	5449	5743
Bell Canada	36106	36483	45604	44891	36483	36414	39525	34962	39525	38750	44891	36414	38750	48437	40889	43028
B.C. Tel	6487	6555	8182	8059	6555	6549	7086	6953	7086	6953	8059	6549	6953	9457	7948	8327
MT&T	1213	1234	1548	1522	1234	1230	1343	1315	1343	1315	1522	1230	1315	1847	1558	1639
Manitoba Tel	2882	2912	3646	3587	2912	2903	3163	2798	3163	3098	3587	2903	3098	4179	3495	3679
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
'et'																
Québec-Tél (Quebec City EAS)	3441	3476	4354	4282	3476	3465	3777	3699	3777	3699	4282	3465	3699	4915	4098	4319
Télébec (Quebec City EAS)	49	49	62	61	49	49	57	48	57	55	61	49	55	74	62	69
	11	11	14	14	11	11	12	11	12	12	14	11	12			
Total (excluding SaskTel)	55006	55589	69506	68411	55589	55473	60253	54965	60253	59061	68411	55473	59061	75445	63498	66804
COST PER MINUTE																
10% Market Share																
AGT	0.0195	0.0197	0.0246	0.0242	0.0197	0.0196	0.0214	0.0209	0.0214	0.0209	0.0242	0.0196	0.0209	0.0278	0.0232	0.0244
Bell Canada	0.0193	0.0195	0.0243	0.0239	0.0195	0.0194	0.0211	0.0207	0.0211	0.0207	0.0239	0.0194	0.0207	0.0283	0.0239	0.0252
B.C. Tel	0.0191	0.0193	0.0241	0.0237	0.0193	0.0193	0.0209	0.0205	0.0209	0.0205	0.0237	0.0193	0.0205	0.0279	0.0234	0.0245
MT&T	0.0196	0.0198	0.0248	0.0244	0.0198	0.0197	0.0215	0.0210	0.0215	0.0210	0.0244	0.0197	0.0210	0.0298	0.0251	0.0264
Manitoba Tel	0.0194	0.0196	0.0246	0.0242	0.0196	0.0196	0.0213	0.0209	0.0213	0.0209	0.0242	0.0196	0.0209	0.0282	0.0236	0.0248
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
'et'																
Québec-Tél (Quebec City EAS)	0.0195	0.0197	0.0246	0.0242	0.0197	0.0196	0.0214	0.0209	0.0214	0.0209	0.0242	0.0196	0.0209	0.0278	0.0232	0.0244
Télébec (Quebec City EAS)	0.0201	0.0203	0.0256	0.0251	0.0203	0.0202	0.0244	0.0236	0.0244	0.0236	0.0251	0.0202	0.0236	0.0306	0.0257	0.0290
	0.0202	0.0204	0.0254	0.0250	0.0204	0.0203	0.0221	0.0216	0.0221	0.0216	0.0250	0.0203	0.0216			
20% Market Share																
AGT	0.0195	0.0197	0.0246	0.0242	0.0197	0.0196	0.0214	0.0209	0.0214	0.0209	0.0242	0.0196	0.0209	0.0278	0.0232	0.0244
Bell Canada	0.0193	0.0195	0.0243	0.0239	0.0195	0.0194	0.0211	0.0186	0.0211	0.0207	0.0239	0.0194	0.0207	0.0283	0.0239	0.0251
B.C. Tel	0.0191	0.0193	0.0241	0.0237	0.0193	0.0193	0.0209	0.0205	0.0209	0.0205	0.0237	0.0193	0.0205	0.0279	0.0234	0.0245
MT&T	0.0196	0.0198	0.0248	0.0244	0.0198	0.0197	0.0215	0.0210	0.0215	0.0210	0.0244	0.0197	0.0210	0.0298	0.0251	0.0264
Manitoba Tel	0.0194	0.0196	0.0246	0.0242	0.0196	0.0196	0.0213	0.0189	0.0213	0.0209	0.0242	0.0196	0.0209	0.0282	0.0236	0.0248
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
'et'																
Québec-Tél (Quebec City EAS)	0.0195	0.0197	0.0246	0.0242	0.0197	0.0196	0.0214	0.0209	0.0214	0.0209	0.0242	0.0196	0.0209	0.0278	0.0232	0.0244
Télébec (Quebec City EAS)	0.0200	0.0202	0.0255	0.0250	0.0202	0.0201	0.0234	0.0197	0.0234	0.0228	0.0250	0.0201	0.0228	0.0305	0.0256	0.0282
	0.0198	0.0200	0.0251	0.0247	0.0200	0.0200	0.0218	0.0199	0.0218	0.0213	0.0247	0.0200	0.0213			

Note: Figures generated by the Task Force were estimated from data submitted by telephone companies.

* Underlying data submitted in confidence.

TABLE B-7 - ONGOING COST SUMMARY (1986) - EAS CENTRES WITH > 25,000 NAS

TOTAL COST ($000)	A	B	C1	C2	C3	C4	C5	C6	D1	D2	E1	E2	E3	F1	F2	F3
10 % Market Share																
AGT	2820	2849	3569	3511	2849	2840	3095	3031	3095	3031	3511	2840	3031	3855	3213	3386
Bell Canada	22163	22229	27912	27476	22407	22364	24263	23789	24263	23789	27476	22389	23789	30388	25694	27006
B.C. Tel	3978	4023	5001	4926	4023	4019	4330	4249	4330	4249	4926	4019	4249	5737	4839	5050
Island Tel	98	100	123	120	100	99	107	107	107	104	120	99	107	141	121	129
MT&T	761	770	962	946	770	767	839	821	837	821	946	767	821	1144	968	1019
Manitoba Tel	1525	1541	1928	1896	1541	1537	1675	1641	1675	1641	1896	1537	1641	2208	1849	1948
NBTel	672	680	843	829	681	679	732	716	732	716	829	679	716	970	819	854
Newfoundland Tel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
'el'	1720	1738	2177	2141	1738	1733	1889	1850	1889	1850	2141	1733	1850	2458	2049	2160
Québec-Tél	98	99	123	120	99	99	113	110	113	110	120	99	110	147	125	136
Télébec	37	37	46	46	37	37	40	39	40	39	46	37	39	22	18	19
Thunder Bay	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	35276	35485	44447	43744	35664	35586	38628	37867	38626	37864	43744	35611	37867	49086	41394	43500
20 % Market Share																
AGT	5595	5645	7136	7018	5645	5628	6101	5975	6101	5975	7018	5628	5975	7708	6426	6773
Bell Canada	44234	44354	55805	54932	44716	44633	48410	42780	48410	47464	54932	44633	47464	60757	51293	53902
B.C. Tel	7940	8026	9999	9849	8026	8019	8659	8496	8659	8496	9849	8019	8496	11470	9659	10099
Island Tel	195	197	245	240	197	196	210	211	210	205	240	196	211	281	239	254
MT&T	1520	1537	1923	1890	1537	1531	1673	1638	1673	1638	1890	1531	1638	2288	1933	2034
Manitoba Tel	3049	3081	3854	3791	3081	3071	3348	2958	3348	3279	3791	3071	3279	4415	3695	3892
NBTel	1339	1354	1686	1657	1354	1349	1463	1295	1463	1432	1657	1349	1432	1939	1630	1708
Newfoundland Tel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
'el'	3441	3476	4354	4282	3476	3465	3777	3699	3777	3699	4282	3465	3699	4915	4098	4319
Québec-Tél	195	197	245	240	197	196	220	189	220	215	240	196	215	293	249	267
Télébec	72	73	92	90	73	73	79	71	79	78	90	73	78	43	36	38
Thunder Bay	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	70369	70759	88860	87455	71121	70968	77005	70017	77005	75479	87455	70968	75485	98139	82635	86844

Note: Figures generated by the Task Force were estimated from data submitted by telephone companies.

* Underlying data submitted in confidence.

TABLE B-7 (cont'd) - ONGOING COST SUMMARY (1986) - EAS CENTRES WITH > 25,000 NAS

COST PER MINUTE	A	B	C1	C2	C3	C4	C5	C6	D1	D2	E1	E2	E3	F1	F2	F3
10% Market Share																
AGT	0.0195	0.0197	0.0246	0.0242	0.0197	0.0196	0.0214	0.0209	0.0214	0.0209	0.0242	0.0196	0.0209	0.0278	0.0232	0.0244
Bell Canada	0.0193	0.0195	0.0243	0.0240	0.0195	0.0195	0.0212	0.0207	0.0212	0.0207	0.0240	0.0195	0.0207	0.0283	0.0239	0.0251
B.C. Tel	0.0192	0.0194	0.0241	0.0238	0.0194	0.0194	0.0209	0.0205	0.0209	0.0205	0.0238	0.0194	0.0205	0.0279	0.0235	0.0245
Island Tel	0.0204	0.0207	0.0254	0.0250	0.0207	0.0205	0.0222	0.0223	0.0222	0.0217	0.0250	0.0205	0.0223	0.0307	0.0263	0.0280
MT&T	0.0196	0.0198	0.0248	0.0244	0.0198	0.0198	0.0216	0.0212	0.0216	0.0212	0.0244	0.0198	0.0212	0.0298	0.0252	0.0266
Manitoba Tel	0.0195	0.0197	0.0246	0.0242	0.0197	0.0196	0.0214	0.0209	0.0214	0.0209	0.0242	0.0196	0.0209	0.0282	0.0236	0.0249
NBTel	0.0198	0.0200	0.0248	0.0244	0.0201	0.0200	0.0215	0.0211	0.0215	0.0211	0.0244	0.0200	0.0211	0.0286	0.0241	0.0252
Newfoundland Tel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
'et'	0.0195	0.0197	0.0246	0.0242	0.0197	0.0196	0.0214	0.0209	0.0214	0.0209	0.0242	0.0196	0.0209	0.0278	0.0232	0.0244
Québec-Tél	0.0204	0.0207	0.0255	0.0250	0.0207	0.0205	0.0234	0.0229	0.0234	0.0229	0.0250	0.0205	0.0229	0.0305	0.0260	0.0283
Télébec	0.0200	0.0202	0.0253	0.0249	0.0202	0.0201	0.0219	0.0215	0.0219	0.0215	0.0249	0.0201	0.0215	0.0293	0.0244	0.0257
Thunder Bay	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20% Market Share																
AGT	0.0193	0.0195	0.0246	0.0242	0.0195	0.0194	0.0211	0.0206	0.0211	0.0206	0.0242	0.0194	0.0206	0.0278	0.0232	0.0244
Bell Canada	0.0193	0.0195	0.0243	0.0239	0.0195	0.0195	0.0211	0.0186	0.0211	0.0207	0.0239	0.0195	0.0207	0.0283	0.0239	0.0251
B.C. Tel	0.0191	0.0193	0.0241	0.0237	0.0193	0.0193	0.0209	0.0205	0.0209	0.0205	0.0237	0.0193	0.0205	0.0279	0.0235	0.0245
Island Tel	0.0202	0.0205	0.0254	0.0249	0.0205	0.0203	0.0218	0.0219	0.0218	0.0213	0.0249	0.0203	0.0219	0.0307	0.0261	0.0277
MT&T	0.0196	0.0198	0.0248	0.0244	0.0198	0.0197	0.0216	0.0211	0.0216	0.0211	0.0244	0.0197	0.0211	0.0298	0.0252	0.0265
Manitoba Tel	0.0195	0.0197	0.0246	0.0242	0.0197	0.0196	0.0214	0.0189	0.0214	0.0209	0.0242	0.0196	0.0209	0.0282	0.0236	0.0248
NBTel	0.0197	0.0199	0.0248	0.0244	0.0199	0.0199	0.0215	0.0191	0.0215	0.0211	0.0244	0.0199	0.0211	0.0285	0.0240	0.0252
Newfoundland Tel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
'et'	0.0195	0.0197	0.0246	0.0242	0.0197	0.0196	0.0214	0.0209	0.0214	0.0209	0.0242	0.0196	0.0209	0.0278	0.0232	0.0244
Québec-Tél	0.0202	0.0205	0.0254	0.0249	0.0205	0.0203	0.0229	0.0196	0.0229	0.0223	0.0249	0.0203	0.0223	0.0304	0.0258	0.0277
Télébec	0.0198	0.0200	0.0250	0.0246	0.0200	0.0199	0.0217	0.0193	0.0217	0.0212	0.0246	0.0199	0.0212	0.0290	0.0243	0.0255
Thunder Bay	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

Note: Figures generated by the Task Force were estimated from data submitted by telephone companies.

* Underlying data submitted in confidence.

TABLE B-8 - ONGOING COST SUMMARY (1986) - ALL CENTRES

TOTAL COST ($000)	A	B	C1	C2	C3	C4	C5	C6	D1	D2	E1	E2	E3	F1	F2	F3
10% Market Share																
AGT	4163	4234	5077	4994	2849	2840	4398	4307	4398	4307	4994	2840	4307	5557	3213	4876
Bell Canada	25952	22743	32193	31690	22407	22364	27861	27314	27881	27334	32169	22389	27314	32400	25694	28548
B.C. Tel	5450	5327	6660	6561	4023	4019	5760	5652	5760	5652	6558	4019	5649	7044	5085	6207
Island Tel	177	154	210	204	100	99	177	176	180	176	206	99	181	215	131	200
MT&T	1401	1245	1656	1627	770	767	1431	1404	1431	1404	1627	767	1404	1855	968	1652
Manitoba Tel	3719	3680	4643	4567	1541	1537	4023	3940	4023	3940	4561	1537	3935	5272	1849	4638
NBTel	1235	1622	819	1427	2384	2330	2914	2865	1354	1349	2523	2232	2523	2469	2865	1349
Newfoundland Tel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Amtelecom	42	26	47	46			50	50	50	50	24		23	28		27
'et'	1720	1738	2177	2141	1738	1733	1889	1850	1889	1850	2141	1733	1850	2458	2049	2160
Northern Telephone	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Northwestel	111	52	105	104			98	96	98	96	83		70	94		80
Ontario Northland	10		9	9			9	9	9	9	9		9	10		11
Prince Rupert City Tel	34		42	41			37	50	37	50	55		50	60		104
Québec-Tél	740	764	826	811	99	99	715	698	715	698	811	99	698	989	125	874
Télébec	512	256	567	557	37	37	490	479	490	479	557	37	479	424	18	372
TerraNovaTel	234	27	222	217			193	189	193	189	62		54	74		65
Thunder Bay	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	48581	44635	58820	58504	37366	37237	53141	52111	51603	50612	59880	37165	51572	62817	43695	54566
20% Market Share																
AGT	8160	8271	10146	9979	5645	5628	8795	8613	8795	8613	9979	5628	8613	11104	6426	9752
Bell Canada	51491	45325	64349	63343	44716	44633	55715	49282	55754	54660	64302	44633	54622	64770	51293	57090
B.C. Tel	10754	10492	13309	13109	8026	8019	11519	11302	11519	11302	13103	8019	11297	14077	10151	12413
Island Tel	343	296	417	405	100	99	348	342	355	347	409	196	357	428	261	395
MT&T	2706	2752	3301	3245	1537	1531	2861	2800	2861	2800	3245	1531	2800	3701	1933	3297
Manitoba Tel	7336	7244	9278	9126	3081	3071	8046	7118	8046	7880	9113	3071	7869	10536	3695	9275
NBTel	2384	2330	2914	2865	1354	1349	2523	2232	2523	2469	2865	1349	2469	3240	1630	2853
Newfoundland Tel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Amtelecom	79	46	93	92			91	72	91	90	46		43	54		51
'et'	3441	3476	4354	4282	3476	3465	3777	3699	3777	3699	4282	3465	3699	4915	4098	4319
Northern Telephone	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Northwestel	194	98	205	202			187	155	187	184	161		133	184		153
Ontario Northland	16		17	17			17	13	17	17	17		16	20		19
Prince Rupert City Tel	66		83	82			71	72	71	70	82		72	93		82
Québec-Tél	1441	1648	1618	197	196	1429	1265	1429	1396	1618	196	1396	1974	249	1748	
Télébec	969	480	1128	1110	73	73	977	865	977	956	1110	73	956	843	36	742
TerraNovaTel	414	51	438	429			382	334	382	373	123		107	146		129
Thunder Bay	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	95733	87801	118771	115485	71021	72105	102749	93789	102927	101124	116021	72169	101062	122082	84648	107367

Note: Figures generated by the Task Force were estimated from data submitted by telephone companies.

* Underlying data submitted in confidence.

TABLE B-8 (cont'd) - ONGOING COST SUMMARY (1986) - ALL CENTRES

COST PER MINUTE	A	B	C1	C2	C3	C4	C5	C6	D1	D2	E1	E2	E3	F1	F2	F3
10% Market Share																
AGT	0.0202	0.0206	0.0247	0.0243	0.0197	0.0196	0.0214	0.0209	0.0214	0.0209	0.0243	0.0196	0.0209	0.0278	0.0232	0.0244
Bell Canada	0.0196	0.0196	0.0243	0.0240	0.0195	0.0195	0.0211	0.0207	0.0211	0.0207	0.0243	0.0195	0.0207	0.0283	0.0239	0.0249
B.C. Tel	0.0198	0.0201	0.0241	0.0238	0.0194	0.0194	0.0209	0.0205	0.0209	0.0205	0.0238	0.0194	0.0205	0.0284	0.0247	0.0250
Island Tel	0.0215	0.0227	0.0255	0.0248	0.0207	0.0205	0.0216	0.0215	0.0219	0.0214	0.0251	0.0205	0.0220	0.0311	0.0286	0.0288
MT&T	0.0210	0.0217	0.0249	0.0245	0.0198	0.0198	0.0215	0.0211	0.0215	0.0211	0.0245	0.0198	0.0211	0.0299	0.0252	0.0266
Manitoba Tel	0.0197	0.0199	0.0246	0.0242	0.0197	0.0196	0.0213	0.0209	0.0213	0.0209	0.0242	0.0196	0.0209	0.0282	0.0236	0.0248
NBTel	0.0209	0.0211	0.0249	0.0245	0.0201	0.0200	0.0215	0.0211	0.0215	0.0211	0.0245	0.0200	0.0211	0.0286	0.0241	0.0252
Newfoundland Tel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Amtelecom	0.0223	0.0277	0.0249	0.0245			0.0267	0.0262	0.0267	0.0262	0.0249		0.0240	0.0293		0.0282
'et'	0.0195	0.0197	0.0246	0.0242	0.0197	0.0196	0.0214	0.0209	0.0214	0.0209	0.0242	0.0196	0.0209	0.0278	0.0232	0.0244
Northern Telephone	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Northwestel	0.0272	0.0226	0.0257	0.0253			0.0239	0.0235	0.0239	0.0235	0.0253		0.0244	0.0312		0.0308
Ontario Northland	0.0283		0.0256	0.0252			0.0272	0.0268	0.0272	0.0268	0.0252		0.0268	0.0295		0.0309
Prince Rupert City Tel	0.0197		0.0242	0.0238			0.0213	0.0294	0.0213	0.0289	0.0318		0.0294	0.0350		0.0304
Québec-Tél	0.0228	0.0236	0.0255	0.0250	0.0207	0.0205	0.0221	0.0215	0.0221	0.0215	0.0250	0.0205	0.0215	0.0305	0.0260	0.0270
Télébec	0.0225	0.0235	0.0249	0.0245	0.0202	0.0201	0.0215	0.0211	0.0215	0.0211	0.0245	0.0201	0.0211	0.0291	0.0244	0.0256
TerraNovaTel	0.0282	0.0237	0.0267	0.0262			0.0233	0.0227	0.0233	0.0227	0.0263		0.0227	0.0310		0.0274
Thunder Bay	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20% Market Share																
AGT	0.0198	0.0201	0.0246	0.0242	0.0195	0.0194	0.0214	0.0209	0.0214	0.0209	0.0242	0.0194	0.0209	0.0278	0.0232	0.0244
Bell Canada	0.0195	0.0195	0.0243	0.0240	0.0195	0.0195	0.0211	0.0186	0.0211	0.0207	0.0243	0.0195	0.0207	0.0283	0.0239	0.0249
B.C. Tel	0.0195	0.0198	0.0241	0.0238	0.0193	0.0193	0.0209	0.0205	0.0209	0.0205	0.0238	0.0193	0.0205	0.0283	0.0247	0.0250
Island Tel	0.0209	0.0218	0.0254	0.0247	0.0207	0.0205	0.0212	0.0208	0.0216	0.0211	0.0249	0.0203	0.0218	0.0309	0.0284	0.0285
MT&T	0.0203	0.0207	0.0248	0.0244	0.0198	0.0197	0.0215	0.0210	0.0215	0.0210	0.0244	0.0197	0.0210	0.0298	0.0252	0.0266
Manitoba Tel	0.0195	0.0196	0.0246	0.0242	0.0197	0.0196	0.0213	0.0189	0.0213	0.0209	0.0242	0.0196	0.0209	0.0282	0.0236	0.0248
NBTel	0.0204	0.0205	0.0249	0.0245	0.0199	0.0199	0.0215	0.0191	0.0215	0.0211	0.0245	0.0199	0.0211	0.0286	0.0240	0.0252
Newfoundland Tel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Amtelecom	0.0209	0.0245	0.0246	0.0242			0.0242	0.0190	0.0242	0.0238	0.0244		0.0226	0.0288		0.0268
'et'	0.0195	0.0197	0.0246	0.0242	0.0197	0.0196	0.0214	0.0209	0.0214	0.0209	0.0242	0.0196	0.0209	0.0278	0.0232	0.0244
Northern Telephone	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Northwestel	0.0237	0.0213	0.0250	0.0247			0.0229	0.0189	0.0229	0.0225	0.0247		0.0233	0.0307		0.0296
Ontario Northland	0.0240		0.0249	0.0246			0.0246	0.0197	0.0246	0.0243	0.0246		0.0243	0.0289		0.0284
Prince Rupert City Tel	0.0194		0.0241	0.0238			0.0208	0.0209	0.0208	0.0204	0.0238		0.0209	0.0270		0.0240
Québec-Tél	0.0217	0.0222	0.0254	0.0250	0.0205	0.0203	0.0220	0.0195	0.0220	0.0215	0.0250	0.0203	0.0215	0.0305	0.0258	0.0270
Télébec	0.0213	0.0220	0.0248	0.0244	0.0200	0.0199	0.0215	0.0190	0.0215	0.0210	0.0244	0.0199	0.0210	0.0289	0.0243	0.0255
TerraNovaTel	0.0249	0.0225	0.0264	0.0259			0.0230	0.0201	0.0230	0.0225	0.0259		0.0225	0.0307		0.0272
Thunder Bay	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

Note: Figures generated by the Task Force were estimated from data submitted by telephone companies.

* Underlying data submitted in confidence.

APPENDIX C

REVENUE SETTLEMENT AND COMMISSION ARRANGEMENTS EMPLOYED BY CANADIAN TELEPHONE COMPANIES

APPENDIX C

REVENUE SETTLEMENT AND COMMISSION ARRANGEMENTS EMPLOYED BY CANADIAN TELEPHONE COMPANIES

Revenue Settlement and Commission Arrangements

Telephone companies are regional undertakings. To meet the needs of customers who make phone calls that terminate and who receive calls that originate outside their serving areas, the networks of telephone companies are interconnected to form a world-wide network. As long distance revenues are generally collected only from customers who originate phone calls, telephone companies have developed elaborate revenue settlement and commission arrangements to divide up these collected revenues in a manner acceptable to the companies involved.

The major types of such arrangements are described in this Appendix, including the arrangements between:

- Telecom Canada members;
- A Telecom Canada member and an independent telephone company;
- Teleglobe Canada and Canadian telephone companies; and
- Canadian telephone companies and U.S. common carriers.

A. Telecom Canada Revenue Settlement Plan (RSP)

i) Importance of the RSP process

The RSP process is used to divide up revenues from calls made between adjacent Telecom Canada companies that do not use the facilities of any other members and Telecom Canada service revenues among member companies. Table C-1 provides an indication of the significance of this process by listing the amount of RSP settled revenues and tabulating this item as a percentage of total long distance revenues and of total operating revenues for each Telecom Canada member in 1986. RSP settled revenues accounted for between approximately 38 and 67 per cent of member companies' long distance revenues in that year.

ii) Historical Overview

At the inception of the TransCanada Telephone System (TCTS, now Telecom Canada), services jointly provided by two or more members were priced on a through-rate basis. Under this approach, the companies involved in originating and completing a long distance call received a "commission" and the balance of the revenues derived from the call was divided on a prorated distance-sensitive basis. This method was used by TCTS members until 1958 when the Full Division Plan (FDP) was adopted.

TABLE C-1

Monopoly Long Distance Revenues Settled
By Telecom Canada Revenue Settlement Plan, 1986 (1)
($ Millions)

Company	RSP settled Total(2)	Total L.D. Revenues	RSP settled as % of Total L.D.	Total Operating Revenues	RSP settled as % of TOR
Nfld Tel	n/a	79	n/a	146	n/a
Island Tel	11	17	67.1%	36	31.9%
MT&T	94	171	55.2%	333	28.3%
NBTel	79	131	60.1%	258	30.5%
Bell Canada	1,086	2,878	37.7%	5,946	18.3%
Manitoba Tel(3)	117	191	61.5%	377	31.1%
SaskTel	n/a	270	n/a	450	n/a
AGT(4)	264	563	46.9%	1,066	24.8%
B.C.Tel(5)	402	724	45.3%	1,347	24.3%
Total (6)	2,242	5,024	44.6%	9,958	22.5%

Notes:

(1) Long Distance (L.D.) = MTS, WATS & 800 Service; n/a denotes not available or confidential.
(2) Includes adjacent-company and Telecom Canada (i.e., transCanada, Canada-U.S. and Canada-Overseas).
(3) For the year ended 31 March 1987.
(4) Not including additional payments (payable by Telecom Canada companies, estimated at estimated at $30.5m) due retroactively to 'et' under the1987 Arbitration Decision.
(5) Includes WATS and 800 Service for intra-company traffic.
(6) Column totals include information provided in confidence.

SOURCE: Based on telephone company responses to information requests from Task Force members, 30 September 1987.

Under the FDP, each member was reimbursed for the costs involved in providing its part of TCTS services and then the remaining revenues were divided among the member companies according to the ratio of plant investment assigned by each company to TCTS services, relative to the total plant investment for all members assigned to such services. The FDP was discontinued in 1976 and an interim arrangement for settlement of revenues was adopted by TCTS pending the introduction of the Revenue Settlement Plan in October 1977.

The adoption of the RSP resulted from the belief among member companies that the FDP could not be modified to reflect changes in the operating environment of telephone companies. For example, certain members were concerned that too little recognition was being given to the varying degree of members' involvement in competitive services.

The RSP was designed to overcome these concerns. It was introduced on October 1, 1977 and RSP settlement procedures were phased in over a ten-year period to avoid a sudden drop in the TCTS settled revenues of any member company. However, full RSP procedures for the competitive settlement were implemented by mid-1978, reflecting the desire of members to establish a stand-alone competitive settlement as quickly as possible.

All Telecom Canada members except Telesat Canada currently participate in the RSP. It is a cost-based plan with the objective of compensating each member company in proportion to its costs incurred in providing Telecom Canada long distance service.

iii) **Classification of Revenues**

Revenues collected by Telecom Canada members are classified for settlement purposes, into two broad categories: basic toll (i.e. monopoly long distance) and competitive services. Within each category, collected revenues are subdivided into three classes: intra-company, adjacent company and Telecom Canada (including transCanada, Canada-U.S. and Canada-overseas). Intra-company revenues are retained by each member. Adjacent and Telecom Canada revenues are settled under similar rules.

With respect to Telecom Canada services, revenues from many different types of services provided as Canada-wide offerings are classified as Telecom Canada revenues. The most important of these services is Message Toll Service. Telecom Canada revenues are further classified into broad traffic categories. The principal ones are:

- **TransCanada**

  This particular revenue category contains the largest number and variety of services provided by Telecom Canada. The principal criterion for inclusion is that the calling locations be in non-adjacent serving areas. However, revenues derived from certain specifically designated traffic (e.g., Voicecom II, Multicom II, Dataroute, Datalink, Datapac, etc.)

are included notwithstanding that such traffic may occur entirely within the serving area of a single member or in those of adjacent members.

- Canada–U.S. and Canada–overseas

  The revenues derived from Message Toll, TWX, 800 service and Datapac traffic are included in the Canada–U.S. category of the RSP if the traffic is between Canada and either the United States (excluding non-continguous states and territories) or Mexico. The Canada–overseas category is made up primarily of revenues from traffic that originates and terminates in Canada and is delivered to, or received from, one of the three Teleglobe gateways in Montréal, Toronto and Vancouver.

iv) Classification of Costs

Costs for settlement purposes are similarly classified into two categories: basic toll and competitive services. Only the separation of costs for basic toll service will be described.

Basic toll costs are divided as follows: Telecom Canada basic toll, adjacent–member basic toll, intra–member basic toll, local, and set and loop ("C") costs. Basic toll and local costs are those usage–sensitive costs associated with the provision of the respective services, including switching equipment and inter–office trunks. Set and loop costs are those associated with providing access from the subscribers' premises to the telephone companies' central office, including the inside wiring within the subscribers' premises and one rotary–dial telephone set per individual–line subscriber.* They are non–usage sensitive costs, and are considered to be common costs incurred for both the local and long distance networks.

v) The RSP Process

"Telecom Canada" revenues, collected by the nine telephone company members, are paid monthly by the Telecom Canada members into a common pool. However, before each company remits its collected Telecom Canada revenues to the pool, the "independent" (i.e., non–Telecom Canada) companies are paid commissions for providing access facilities between their subscribers and Telecom Canada members' long distance networks. These companies own few if any long distance facilities; consequently, the nine major telephone companies incur many of the costs of providing long distance services to the subscribers of these companies and collect such revenues on their behalf.

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*For those network access lines with no company–provided telephone sets in areas where the attachment of customer provided equipment is permitted, a "deemed" cost of some 40% is nevertheless included as part of "C" costs.

Each month, the following steps are applied by Telecom Canada to its members' collected monopoly Telecom Canada service revenues remitted to the pool:

i) The revenues collected on behalf of Teleglobe Canada and net of settlements are paid out to that company – these are revenues generated entirely from Canada–overseas telephone services;

ii) Settlements with U.S. carriers are determined. They may be either net receipts or net payouts to or from the revenue pool;

iii) Revenues are settled with Telesat Canada separately from the "telephone companies" participating in the RSP;

iv) Each member company is then reimbursed from available revenues for its portion of the costs attributable to the provision of those services defined as Telecom Canada offerings. These costs, referred to as Recoverable Assigned Costs (RACs), represent the first claim on the revenues available for settlement. They include maintenance, depreciation, traffic, financial expense and income tax; and

v) The residual portion of the pool, called the Contribution Revenue Pool, is distributed among the member companies in the manner described below.

As steps (iv) and (v) indicate, there are two essential parts to the Telecom Canada revenue pool: (1) one that covers the telephone companies' direct costs; and (2) a surplus part that provides contributions to common costs and/or other services provided by the telephone companies. The settled revenues received from the RSP will always equal the sum of a member's recoverable assigned cost (generally about 20% of total settled revenue) and contribution revenue (generally about 80% of total settled revenue).

Telecom Canada's Contribution Revenue Pool is distributed among the member companies by the following process:

i) The set and loop costs (the "C" costs) of each carrier are divided up in proportion to the identifiable direct transmission and switching plant costs associated with the following services:

Service	Identifiable Direct Costs
Local	L
Intra–company Monopoly Long Distance	I
Adjacent–company Monopoly Long Distance	A
Telecom Canada Monopoly Long Distance	T

ii) A portion of the "C" costs is allocated to Telecom Canada services in proportion to the ratio of identifiable costs. This is called the "Member Participation Measure" (MPM) of the particular carrier:

$$MPM = \frac{T}{L+I+A+T} C \qquad (1)$$

iii) Each party to the Telecom Canada revenue sharing agreement submits its MPM monthly to Telecom Canada. The residual revenue pool for that month is then divided among the members in proportion to their MPMs.

As noted, adjacent-company revenues are settled in an identical fashion, except that the MPMs consist of those set and loop costs proportional to the identifiable "adjacent" service costs (A) instead of the "Telecom Canada" service cost (T). Only two such measures (MPMs) are used in each of the adjacent-company settlements, unlike the "Telecom Canada" settlement where nine MPMs are considered.

Looking at equation (1), it is apparent that a carrier's MPM will change given a change in traffic and costs in any of the four service categories. A change in some members' MPM will affect the proportion in which the pool is shared, even if the total revenue pool remains the same.

B. <u>Revenue Settlement Arrangements Between Telecom Canada Member Companies and Independent Telephone Companies</u>

Independent telephone companies are here taken to mean those companies that provide telephone service but are not members of Telecom Canada; many of these provide only local exchange service. There are over 50 such systems with some 600,000 access lines. They are most numerous in Ontario and Québec, where there are a total of 47 independent companies, 31 of which are in Ontario.

The independents range in size from small companies such as Roxborough Telephone Company Limited which, as of December 31, 1986, had 429 network access lines, to much larger companies in Ontario and Québec, including Télébec, Québec-Tél, and Northern Tel. In addition, the western portion of Northwest Territories, Yukon and northern British Columbia is served by Northwestel, and the rural areas of Newfoundland are served by Terra Nova Tel. The cities of Edmonton, Thunder Bay and Prince Rupert are served by municipally-run telephone systems.

<u>Long Distance Revenues</u>

Many independent telephone companies do not derive any revenue through the carriage of long distance traffic on their own facilities. Their long distance revenues are generated solely from settlements with companies with whom they exchange traffic. Independent telephone companies in Ontario are generally in this situation, and they derive their long distance revenues from settlements with Bell Canada or Ontario Northland. Ontario Northland, in

turn, exchanges traffic with Bell Canada and Télébec, and virtually all its revenues are from long distance.

Other independent companies own extensive long distance facilities and have indigenous as well as settled long distance revenues. Examples are Télébec and Québec-Tél. Both companies operate relatively large systems, and together they account for almost 95% of the revenues of the independent telephone industry in Québec. Also, unlike the independent companies in Ontario, those in Québec generally do not use the Bell Canada MTS rate schedule.

Independent companies also have traffic and settlement agreements with connecting carriers. For instance, Prince Rupert City Tel has agreements with B.C. Tel and 'edmonton telephones' has one with AGT. The principal forms of settlement arrangements are discussed below.

The Long Distance Settlement Process

Long distance settlement agreements are subject to the approval of the appropriate regulators. There are four principal forms of settlement between Telecom Canada members and the independent telephone companies: (i) commission and line-haul; (ii) commission and prorate; (iii) accounting rate; and (iv) commission only.

i) **Commission and line-haul**

This form of arrangement is mostly used by companies which provide little or no interexchange facilities in the carrying of interchanged long distance traffic. The vast majority of small independent companies in Ontario and Québec use this method to settle with Bell Canada. Thunder Bay Telecommunications and Télébec Ltée. (for a portion of its service area) also use this method; 'edmonton telephones' is similarly compensated on the basis of a modified version of Bell Canada's method in its settlement with AGT under a 1987 Arbitration Decision.

This form of settlement is generally in two parts. First, commissions are paid to the independent telephone company for originating and operating a long distance message. Second, a line-haul payment is remitted to the independent company as compensation for the provision of interexchange facilities.

With respect to commissions, an "A" commission is paid to independent companies based on the Average Revenue Per Message (ARPM) on calls originated from the independent's serving area. A "B" (operating) commission is paid to independents for performing operating functions such as switching. The "A" and "B" commissions increase with, but not in direct proportion to, increases in ARPM. The major part of the settlement is the "A" commission.

Under the traffic agreements between Bell Canada and independent companies in Ontario, the independents have to use Bell Canada long distance rates. However, under other agreements such as those between Bell Canada and independent companies in Québec, the independents use their own long distance rate schedules, which may contain rates different from those of Bell Canada. For settlement under the latter type of agreement, all of the revenues generated by the rate differential are retained by the company charging the higher rates.

Under certain agreements between Bell Canada and independents, to compensate for the higher operating costs of some companies, a weighting factor is applied to the messages originating from small independents. Weighted increases in commissions apply through a table of Small Exchange Factors for independent company exchanges originating 4,000 or fewer messages per month and a table of Small Company Factors for companies with 3,000 or fewer network access services. Finally, an adjustment factor is applied to the originated messages in order to maintain the independent company's percentage retention of its originated revenues when there is a change in Bell Canada's MTS rate schedule. The adjustment factor offsets the non-linear relationship between the ARPM and the "A" commission, keeping the retention rate constant when long distance rates change. When Bell Canada increases its MTS rates, the adjustment factor increases the settlement by more than the increase in "A" commissions, preventing their retention rate from going down. However, the same factor works to the disadvantage of the independent telephone companies in the face of decreasing MTS rates because it lowers the retention rate from what it would otherwise be.

ii) <u>Commission And Prorate</u>

This settlement plan is designed for the larger independent companies which provide a relatively high proportion of the interexchange long distance facilities. Similar to the previously mentioned plan, each company receives an "A" commission for every message it originates and a "B" commission for every message it operates; however, the balance of the revenue is prorated between the two companies based on the relative amount of long distance facilities provided by each company. The amount of the prorate is based on periodic traffic studies.

Examples of companies that settle under this method are:

- Québec-Tél/Bell Canada;
- Télébec/Bell Canada (for a portion of the former's serving area);
- Terra Nova Tel/Newfoundland Tel;
- Québec-Tél/NBTel; and
- Northwestel/B.C. Tel.

Under the Bell Canada/independent company plan, changes in MTS rates affect the ARPM which is the basis for both the "A" and "B" commissions. As in the case of commission and line-haul settlements, they do not

increase in direct proportion to increases in ARPM. The independent telephone company receives a lower percentage of any increase in long distance rates, and similarly loses a lower percentage of any decrease in such rates. Regarding the prorate portion of the settlement, the impact of any change in long distance rates is proportional to the change in rates, less the impact due to the commissions.

The overall effect of a decrease in MTS rates is to lower the revenue available for settlement, although the way in which the impact is shared between the two carriers depends on which of the companies carries the majority of the long distance operating functions, and which has the majority of the line-haul facilities.

iii) Accounting Rate

Under this form of settlement, each company retains its billed revenues. For traffic that originates in one company and terminates in another, any difference in originating traffic is settled by means of a per-minute accounting rate paid to the party with the lower amount of originating minutes.

For traffic that originates in one company and terminates beyond the other company's serving ares - e.g., Northwestel originated traffic which passes through AGT territory to the U.S. - an additional transit rate is paid to the company that forwards the traffic.

Northwestel has this type of agreement with AGT to settle revenue earned from adjacent-company, Northwestel/Telecom Canada, Alaska-Canada transit traffic and Northwestel-U.S. traffic.

iv) Commission

Under this arrangement, the originating carrier receives a constant percentage of the originated long distance revenue or a fixed amount commission for each originated long distance message. The agreement between B.C. Tel and Prince Rupert City Tel is in this form. Prince Rupert collects long distance revenues from its customers and receives $0.77 for each MTS message, and a smaller amount for WATS calls. It is also paid a set fee for automatic number identification and other services.

C. Settlement Arrangements Between Telephone Companies and U.S. Carriers

With respect to Canada-U.S. traffic, Canadian telephone companies do not generally have separate agreements with U.S. carriers for settlement purposes (an exception is the settlement agreement between Northwestel and Alascom Inc.). Instead, each Telecom Canada member is compensated on the basis of the RSP. Other telephone companies in turn settle with the interconnecting Telecom Canada members that deliver their traffic to U.S. locations. This is done under the terms of connecting agreements negotiated between the carriers concerned. For example, Northwestel has an agreement with AGT

using an accounting rate method, and it has a separate agreement with B.C. Tel using the commission and prorate method.

Regarding MTS, Telecom Canada has agreements with AT&T, MCI, US Sprint and other U.S. long distance carriers. Telecom Canada also has several secondary settlement agreements for other services including WATS, 800 Service and private line with AT&T, and it has agreements for other services, e.g., transborder satellite service, with other U.S. carriers. The MTS settlement arrangement between Telecom Canada and AT&T is summarized below.

Before 1986, AT&T and Telecom Canada had a mutually agreed upon common rate schedule for calling between the U.S. and Canada. Revenues were shared in accordance with a cost-based ratio of 51.74%/48.26%, with the larger percentage going to Telecom Canada.

Under the current agreement, for the period January 1 to June 30, 1986, the party billing the greater number of minutes paid the other party $0.21 (U.S.) per minute for the imbalance in billed minutes. Effective July 1, 1986, a peak/off-peak settlement was introduced. Peak period traffic continued to be settled at $0.21 (U.S.) per minute, but the settlement for off-peak period traffic was reduced to $0.19 (U.S.) per minute. The peak period was from 8:00 a.m. to 6:00 p.m., Monday to Friday. The party billing the greater number of received collect calls similarly pays the other party $1.32 (U.S.) per call for the imbalance in such calls. Finally, the party originating the greater number of long distance directory assistance calls pays the other party $0.50 (U.S.) per call for the imbalance in such calls.

D. <u>Settlement Arrangements Between Telephone Companies and Teleglobe Canada</u>

As is the case with Canada-U.S. traffic, Canadian telephone companies do not enter into agreements directly with Teleglobe Canada for settlements with respect to Canada-overseas traffic. Similarly, each Telecom Canada member is compensated through the RSP. Non-Telecom Canada telephone companies are in turn compensated by arrangements with Telecom Canada members which forward their traffic. For instance, Northwestel settles its Canada-overseas revenues with B.C. Tel and AGT.

Telecom Canada has a settlement agreement with Teleglobe Canada for Canada-overseas MTS. It also has secondary agreements covering TWX, private line, Datapac/Globedat, video conferencing and other services.

As an example of how the settlement works, payments accruing to Telecom Canada for overseas MTS traffic interchanged at the Vancouver point of connection are as follows:

(CENTS PER MINUTE RATE)

	PERSON-TO-PERSON	STATION-TO-STATION OPERATOR-HANDLE	STATION-TO-STATION CUSTOMER-DIALED
Full Rate	73.16	68.16	66.59
Reduced Rate	60.48	55.48	54.20

The payment by Teleglobe to Telecom Canada is intended to compensate member companies for providing local access and line haul to Teleglobe's international gateways.

APPENDIX D

GLOSSARY OF SELECTED TECHNICAL TERMS

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ABOVE 890 DECISION – A 1959 U.S. Federal Communications Commission (FCC) decision allowing firms to build private microwave systems using radio frequencies "above 890 megahertz."

ACCESS CHARGE – In the U.S., an amount that a long distance carrier must pay to a local telephone company for access to the local exchange network. For example, see Carrier Common Line Charge. (The Subscriber Line Charge is also sometimes referred to as an access charge).

ACCESS COSTS – The costs of providing access line facilities.

ACCESS LINE – A physical link that connects a customer location to a telephone company central office to allow calls to be made. Also called Subscriber Line.

ACCESS TANDEM – A local telephone company switching facility that aggregates switched access traffic from (or to) a number of individual end offices for delivery to (or receipt from) other exchanges.

ANALOGUE – One of two fundamental forms (the other is digital) of encoding information for transmission and switching. Information is superimposed on a signal by means of continuous variations in its amplitude, phase or frequency.

ANI – See Automatic Number Identification.

ANSWER/DISCONNECT SUPERVISION – A process by which the lifting of the called receiver (answer) or replacement of a receiver at either end of a call (disconnect) is detected and a corresponding signal is passed to initiate action (e.g., start or stop timing, release the circuit).

ARBITRAGE – In the context of this report, the practice of buying wholesale and selling retail. See Resale Carriers.

AUTOMATIC NUMBER IDENTIFICATION (ANI) – Identification and recording, without human intervention, of the telephone number of the line initiating a call.

BELL OPERATING COMPANIES (BOCs) – Regulated telephone companies which, prior to divestiture, had been majority owned by AT&T. After divestiture, on 1 January 1984, BOCs were grouped under seven Regional Bell Holding Companies (RBHCs).

BELL SYSTEM – The entire pre-1984 AT&T organization including Bell Labs, Long Lines, Western Electric and the 22 Bell local operating companies, plus Cincinnati Bell and Southern New England Telephone (both minority owned by AT&T).

BIT (BInary digiT) – A unit of information capable of being represented by one or the other of two distinct physical or logical states (e.g., 0/1, on/off, up/down).

BOCs – See Bell Operating Companies.

BPS (Bits Per Second) – Unit of measurement for the rate at which a digital signal is transmitted over a communications channel.

BROADBAND EXCHANGE SERVICE – A public circuit-switched network that provides for direct subscriber-to-subscriber transmission of digital or analogue signals such as data, message record, telemetering, voice co-ordination and facsimile. Broadband exchange service is designed for high-speed computer data transmission and has a speed capability of up to 9600 bps.

BYPASS – The use by customers of alternatives to certain local and long distance services provided by telecommunications carriers. This may include facility and service bypass technologies such as cellular radio, microwave and satellite.

CABLE – Physical facilities for the transmittal of messages consisting of numerous pairs of insulated conductors assembled in a compact form and covered by a flexible, waterproof protective sheath.

CARRIER COMMON LINE CHARGE (CCLC) – In the U.S., a usage-sensitive access charge levied on long distance carriers to recover certain non-traffic sensitive costs assigned to the interstate (federal) jurisdiction.

CCLC – See Carrier Common Line Charge.

CELLNET – An association of telephone company cellular affiliates operating across Canada which co-ordinates cellular radio telephone service provided by the telephone companies.

CELLULAR RADIO SERVICE – A mobile radio system in which a single transmitter serves a specific geographical area known as a cell. The serving area is split into a number of cells, and service is uninterrupted as the mobile unit moves from cell to cell. The capacity of the system can be increased by subdividing existing cells and reusing the frequencies in each new cell.

CENTRAL OFFICE – A building containing telephone switching equipment where customers' lines are terminated and interconnected.

CENTREX – A telephone company service that provides PBX (see below) service by means of telephone company central office equipment.

CIRCUIT-SWITCHED – Describes a situation in which the source and the destination are physically connected by a dedicated circuit for the duration of the communication through a switching centre.

COAXIAL CABLE – A cable composed of an insulated central conducting wire enclosed in an electrically shielding protective sheath.

COMMON CARRIER – A company that undertakes to convey (telecommunications) traffic for the public for hire or reward. This term is not defined in federal statutes in Canada. However, the word carrier is generally understood to mean a company or undertaking that furnishes transmission facilities or services; the word common indicates that the facilities or services are to be offered on a non-discriminatory basis to all who choose to use them.

CONSENT DECREE – (In Canada, Consent Orders.) A court judgement that gives effect to and prescribes the precise nature of an agreement reached between two parties to settle a suit brought by one against the other. Two particular Consent Decrees have strongly influenced the structure of the U.S. telecommunications industry.

CONSENT DECREE (1956) – A judicial settlement between the Bell System and the U.S. federal government ending a seven-year antitrust case. It generally limited the Bell System to providing communications services, charges for which are subject to regulation, and to manufacturing equipment of a type used in the furnishing of such services. Among certain exceptions, it permitted the Bell System to perform any kind of work for the U.S. government and to engage in business "incidental" to the provision of common carrier communications services. On 8 January 1982, the U.S. Department of Justice and AT&T agreed to vacate the 1956 Consent Decree in its entirety and replace it with a modification.

CONSENT DECREE (1982) – Agreed to by AT&T and the U.S. Department of Justice on 8 January 1982 and approved by U.S. District Court Judge Harold Greene on 24 August 1982, it required that AT&T divest sufficient facilities, personnel, systems and rights to technical information within Bell operating companies (BOCs) to permit the BOCs to perform local telecommunications, local exchange access and printed Yellow Pages directory functions independently of AT&T. AT&T retained Western Electric, Bell Labs and Long Lines, and it assumed the interLATA long distance operations of the BOCs as well as their embedded customer premises equipment. Licence and standard supply contracts with the BOCs, Southern New England Telephone and Cincinnati Bell were terminated. After AT&T's reorganization, the BOCs were prohibited from discriminating in favour of AT&T and its products and services with respect to local exchange and information access, procurement, dissemination of technical information and standards, interconnection and use of BOC facilities, and in the planning for new services and facilities.

CONTRIBUTION REVENUES – The excess of telephone company revenues over direct costs for a particular service or category of services.

CREAM-SKIMMING – A situation in which market suppliers can selectively choose to serve only the more profitable areas (i.e., the "cream") of the market – for example, high-volume lower cost routes – while ignoring areas in which it costs more to provide service.

CROSS-SUBSIDIZATION – The practice of using profits generated from one product or service to support another.

CUSTOMER PREMISES EQUIPMENT (CPE) – Equipment such as telephone sets and private branch exchange systems located at customers' premises.

DEDICATED ACCESS – Where a line is dedicated to a single user to connect the user to a competitive data or voice service.

DEPRECIATION – A method of spreading the cost of assets over their useful life so that stable and realistic accounting and pricing policies may be followed.

DIGITAL – One of two fundamental forms (the other is analogue) of encoding information for transmission and switching. Conversion of information into a sequence of elements selected from a small set of symbols (often bits).

DIGITAL RADIO – A microwave radio system for the transmission of digitally encoded signals.

DIGITAL SIGNAL – An electrical signal that carries information as a time-varying sequence of discrete, physically distinguishable states.

DIGITAL SWITCHING – A process in which digital signals are connected from source to destination with no change in form.

DIGITAL TRANSMISSION – A mode of transmission that conveys digital signals (i.e., digitally encoded information).

DIRECT DISTANCE DIALLING – The process whereby users directly dial telephone numbers outside their toll free calling area without the assistance of an operator.

DISCRIMINATION – Differential treatment by a common carrier of customers, services or the offering of facilities.

DIVESTITURE – In the U.S., the process that divided up the assets of AT&T so that its 22 local telephone operating companies were spun off into seven regional Bell holding companies (RBHCs), while AT&T retained control of its long distance, manufacturing and research capabilities. See Consent Decree (1982).

DIVISION OF REVENUES PROCESS – In the U.S., a pre-divestiture system to apportion long distance revenue from intrastate and interstate long distance between the Bell System operating companies and AT&T Long Lines.

DUAL TONE MULTI-FREQUENCY (DTMF) SIGNALLING – A method of signalling that uses a pair of audible tones (one of relatively high and one of relatively low frequency) to represent a digit or other telephone keypad symbol. One-plus (1+) is the method employed for telephone lines equipped for "Touch Tone" or "Digital Tone" service, and the tones are generated by pressing a key on the telephone set.

EARTH STATION – Ground-based equipment used to control or provide communication through a satellite. Transmit/receive earth stations can send and receive signals and may be used in two-way communications such as telephony.

ECONOMIES OF SCALE – Exist if an increase in the level of production is accompanied by a less than proportional increase in total costs. Stated differently, the long run average costs fall continuously over the range of industry output and are not exhausted by total market sales.

ECONOMIES OF SCOPE – Exist when the production of a combination of two or more distinct services within a single firm results in lower costs than the production of each service separately by individual firms. Economies of scope result from the sharing of facilities, labour and/or management between two or more products or services.

800 SERVICE – A service that charges the called party for calls to a special type of telephone number without charge to the originating caller for customer dialled calls.

ELECTRONIC DATA PROCESSING – Data processing performed by electronic machines (i.e., computers).

ELECTRONIC MAIL – Messages sent between terminals under the control of computers. Generally, such a service allows for the creation, retrieval, modification and storage of such messages.

ELECTRONIC SWITCHING SYSTEM – A telephone switching system that uses a special purpose stored-program digital computer to control the switching operation.

END OFFICE – A central office to which subscriber access lines are connected.

END USER – A customer who uses telecommunications services directly, rather than providing them to others.

ENFIA (Exchange Network Facilities for Interstate Access) – In the U.S., a pre-divestiture Bell System interstate tariff negotiated with Other Common Carriers which applied to facilities interconnecting long distance carriers' circuits with local exchange switching plant owned by local telephone companies. Adopted by the FCC in 1979, it was replaced by the FCC's Interstate Access Charge Plan adopted in May 1984.

ENHANCED SERVICES – A range of specialized telecommunications services that add value to or "enhance" telecommunications services supplied by common carriers – e.g., electronic and voice mail services. Various regulatory bodies have more specific definitions of enhanced services. (See, for example, Telecom Decision CRTC 84-18.)

EQUAL ACCESS – An arrangement that allows telephone customers to access different long distance companies with equal ease and quality of connection.

EXCHANGE AREA– A geographical area for the administration and furnishing of telephone service established particularly for rating purposes.

EXCHANGE SERVICE – Local telephone services ranging from those that satisfy the basic day-to-day telecommunications needs of individual subscribers to more sophisticated services such as Centrex.

EXECUNET – In the U.S., interstate public-switched voice MTS-like service introduced by MCI in 1975.

EXTENDED AREA SERVICE (EAS) – Allows customers located in one exchange to place calls to another exchange without incurring long distance charges. This may be supplied so that charges apply in neither direction (two-way EAS) or in one direction (one-way EAS).

FACILITIES-BASED CARRIER – A carrier owning, as opposed to leasing, network facilities used to provide telecommunications services.

FACSIMILE (FAX) – Transmission of pictures, maps, diagrams, etc., over communication circuits. The image is scanned at the transmitter end and reconstructed at the receiving station, where a hard (paper) copy is produced.

FIBRE OPTICS – A system for the transmission of information using beams of light over high purity, hair-thin glass fibres. This system is particularly suitable for high volumes of information transfer.

FOREIGN EXCHANGE (FX) SERVICE – Telephone service that allows customers in one exchange to subscribe to local service in another exchange. It permits customers, for a charge, to make or receive calls at rates that apply in the remote exchange.

GATEWAY – A facility that provides a link between two or more networks. The gateway node translates the protocols of one network into the those of another so that messages can be passed.

INDIVIDUAL-LINE SERVICE – Public-switched telephone service whereby access line facilities are dedicated to the use of a single business or household.

INTEGRATED SERVICES DIGITAL NETWORK (ISDN) – An end-to-end digital network that provides a range of voice and non-voice applications through a small number of standard interfaces.

INTER-COMPANY REVENUES – Revenues received from services provided between two different Canadian telephone companies whose serving areas may be contiguous (Telecom Canada's "adjacent-company" category) or non-contiguous (Telecom Canada's "transCanada" category).

INTERCONNECTION – A term that describes the connection of the facilities of one telecommunications network to those of another.

INTEREXCHANGE CARRIER – A long distance carrier.

INTEREXCHANGE SERVICES – Telecommunications services provided between exchanges that are not in the same toll free calling area.

INTERLATA SERVICES – In the U.S., telecommunications services that originate and terminate in different local access and transport areas.

INTER–PROVINCIAL/INTER–TERRITORIAL – An adjective used to describe services, revenues, functions, etc. which relate to telecommunications originating in one province or territory and terminating in another, and which involve more than one telephone company.

INTERSTATE SERVICE – In the U.S., a telecommunications service provided to connect points located in different states that are not in the same local service area.

INTRALATA SERVICES – In the U.S., telecommunications services that originate and terminate in the same local access and transport area or the same local service area.

INTRA–PROVINCIAL/INTRA–TERRITORIAL – An adjective used to describe services, revenues, functions, etc., associated with telecommunications originating and terminating within a single province, territory or a telephone company's serving area.

INTRASTATE SERVICE – In the U.S., a telecommunications service provided to connect two points located in the same state.

INWATS (Inward Wide Area Telephone Service) – See 800 Service.

LAND MOBILE RADIO–TELEPHONE SERVICE – Radio–based telecommunications services to and from terrestrial mobile stations (e.g., in automobiles or hand–held).

LATA – See Local Access and Transport Area.

LEASED LINE – A telecommunications link between two points exclusively used by a single customer for a fee. Also called Private Line.

LIFELINE RATES – Subsidized telephone rates for selected subscriber groups – e.g., low–income or elderly.

LINE SIDE – That portion of central office equipment to which subscriber access lines are connected.

LINE–SIDE CONNECTION – A method of connecting the networks of intercity long distance carriers to the local telephone company network by means of subscriber access lines (where the carrier is the subscriber).

LMS – See Local Measured Service.

LOCAL ACCESS AND TRANSPORT AREA (LATA) – In the U.S., a geographical area within which a Bell operating company (BOC) or an independent telephone company is authorized to provide service. With minor exceptions for urban areas crossing a LATA boundary, BOCs may not provide service between LATAs.

LOCAL EXCHANGE CARRIER – In the U.S., the telephone company that provides local service to connect individual business and residential subscribers within its local serving area. It also provides switched access connections between its subscribers and interexchange carriers, and long distance service within each LATA that it serves.

LOCAL LOOP – The physical facilities joining a subscriber's premises with the telephone company central office. It includes: (1) at least one connection device, usually a jack; (2) inside wiring to the jack(s); (3) a protection device; (4) drop wire; (5) a connection to outside plant facilities; and (6) outside plant facilities to the central office.

LOCAL MEASURED SERVICE (LMS) – A method for charging customers for local calls on the basis of usage. A charge is made for at least some calls and may be determined on the basis of duration, time of day and distance of the call. A "free call" allowance may be provided associated with the monthly subscription charge.

LONG–HAUL – Long distance traffic spanning a significant distance (as opposed to short–haul).

MESSAGE TOLL SERVICE (MTS) – Public long–distance telephone service that is provided and charged for on a usage basis. Long distance calls may be placed with or without operator assistance.

MFJ – See Modification of Final Judgment.

MICROWAVE RADIO – A radio relay transmission system using very short wavelengths that is relatively efficient at moderate to high traffic volumes.

MODIFICATION OF FINAL JUDGMENT (MFJ) – The decree promulgated in 1982 by the U.S. federal court for the District of Columbia that formalized the conditions for the divestiture of AT&T and the restrictions imposed on the Bell operating companies. Also see Consent Decree (1982).

MTS – See Message Toll Service.

MULTI–FREQUENCY SIGNALLING – A method of signalling over telephone lines and trunks that uses combinations of audible tones to represent digits.

MULTI–PARTY LINE – An access line serving more than one subscriber; generally used to describe a line that serves several subscribers. If the maximum number of parties served is two or four, the more specific terms two–party and four–party, respectively, are normally used.

NATIONAL EXCHANGE CARRIER ASSOCIATION (NECA) – A U.S. organization of telephone companies, including Bell operating companies, providing local service that: (a) files joint tariffs for access by long–haul carriers to the local network, (b) collects and pays out carrier charges for access to the local network, and (c) administers revenue pools for companies choosing to join in common tariffs for other elements of carrier interconnection.

NATURAL MONOPOLY – An industry is defined to be a natural monopoly if a single firm is able to produce the industry output at a lower total cost than any two or more firms.

NETWORK – A collection of physical facilities interconnecting several points. Networks may be public (available to all users, generally on a switched basis) or private (dedicated to a single user or group of users).

NETWORK ACCESS SERVICE – A connection or line that provides customers with access to the public–switched telephone network.

NON–PREMIUM ACCESS – In the U.S., a term describing switched access (to non–equal access exchanges) furnished by the local telephone companies to Other Common Carriers inferior to that provided to AT&T.

NON–TRAFFIC SENSITIVE (NTS) COSTS – Investment and operating costs, including depreciation and return on investment, associated with telephone company facilities, the existence and amount of which do not vary with traffic (i.e., number of calls, minutes of use) of the telephone system.

NUMBERING PLAN AREA (NPA) – A geographical area in North America to which a distinctive three–digit "area code" has been assigned. Each telephone number in North America consists of the area code followed by seven digits. The area code may be omitted in dialling a number within the same NPA.

OFF–PREMISES EXTENSION (OPX) – An extension telephone located in remote customer premises which may even be in a distant city. This permits the customer of the extension to have access to local and long distance telephone service as if they were located in the main premises.

ONE–PLUS DIALLING (1+) – A procedure whereby the prefix "1" is dialled before the called telephone number, particularly for long distance calling.

OPX – See Off–Premises Extension.

ORIGINATED REVENUES – Revenues collected by a telephone company as a result of providing communications services. Also see Settled Revenues.

ORIGINATING TRAFFIC – Traffic generated by sources located within the entity under consideration, regardless of the final destination.

OTHER COMMON CARRIERS – In the U.S., long distance common carriers, other than AT&T and the independents, including domestic and international record carriers as well as domestic satellite carriers engaged in providing private line voice, data, audio or video services, etc.

OUTWATS (Outward Wide Area Telephone Service) – See WATS.

PACKET SWITCHING – A data transmission method that divides messages into small pieces which are independently sent through the network and reassembled at the receiving end.

PBX – See Private Branch Exchange.

PBX TRUNK – A trunk used to interconnect a PBX with its end office.

PENETRATION LEVEL – The percentage of households with local telephone service. This is the most widely used measure of telephone service accessibility. A national penetration level of 100% would indicate that every household in the country had telephone service.

POINT OF PRESENCE – A location at which the interconnection between facilities of a local telephone company and a long distance carrier is made.

PRESUBSCRIPTION – In the U.S., an arrangement whereby an individual subscriber may designate one long distance carrier over whose facilities interLATA calls will normally be routed. Under the terms of the MFJ, BOCs are required to offer presubscription choices in all central offices equipped for equal access.

PRICE ELASTICITY OF DEMAND – A measure of the responsiveness of quantity demanded to changes in price, holding all other factors constant. It is defined as the percentage change in the quantity demanded of a product divided by the percentage change in the price of that product. Economists define three ranges of price elasticity, namely: (1) price elastic – when price falls demand rises more than proportionately; (2) price inelastic – when price falls, demand rises less than proportionately; and (3) unitary elastic – when price falls, demand rises proportionately, leaving revenues unaffected.

PRIVATE BRANCH EXCHANGE (PBX) – A private telephone switching system located in a customer's premises which provides connections between terminals connected to it and, generally, between those terminals and other networks. An automated PBX (PABX) allows switching without attendant assistance and is the usual type of PBX.

PRIVATE LINE SERVICE – Primarily a business service, it provides a dedicated communications channel between terminals in the same or different exchanges. This service may be provided using terrestrial or satellite facilites and, for most interconnected applications, is configured in three ways: (a) tie trunks connecting customer PBXs or Centrex switches in each exchange, (b) FXs connecting a customer terminal in one exchange to a telephone company central office in another exchange, and (c) OPXs that connect a customer telephone in one exchange to a PBX in the same or another exchange.

PUBLIC MESSAGE SERVICE – Telegram and related record services, for use by the general public, and which do not require prior subscription or customer terminal equipment.

PUBLIC–SWITCHED TELEPHONE NETWORK – In Canada, the network of local and long distance switching centres interconnected through transmission facilities and providing circuit–switched connections that can access and be accessed by telephone subscribers through the local loop.

RADIO COMMON CARRIER – A company licensed to provide one–way radio paging or two–way mobile radio communications to the public.

RADIO PAGING SERVICE – A service that allows transmitting of a signal, usually a "buzz" or "beep" tone, via radio from any telephone in the public switched network to a personal, portable receiving device in a defined operating area. More sophisticated systems provide audible or visual display messages.

RADIO RELAY SYSTEM – A point–to–point radio transmission system in which the signals are received, amplified and retransmitted by one or more intermediate radio station(s).

RADIO TELEPHONE – A radio transmitter/receiver used for two–way voice communications.

RATE AVERAGING – A regulatory practice of setting uniform rates for the same service rather than having different rates based on the differing costs of, for example, different locations or traffic routes.

RATE BASE – The total capital investment to which the allowed rate of return of a regulated carrier is applied.

RATE BASE REGULATION – A method of regulation in which a common carrier is limited in its operations to a revenue level that will recover no more than its expenses plus an allowed rate of return on its rate base.

RATE CENTRE – The geographical point in an exchange used for measuring the mileage to other exchanges (for calculating rates based on the distance between exchanges).

RATE-OF-RETURN – The percentage net profit rate which a telephone company is authorized to earn, measured by calculating net earnings against investment. (**INTERNAL RATE OF RETURN** refers to the discount rate applied to a company's future cash flows which makes their net present value equal to zero.)

RATE REBALANCING – Moving telecommunications service rates closer to their associated costs. This would result, some telephone companies argue, in much lower MTS/WATS rates and significantly higher local rates, while maintaining company profitability at existing levels.

REGIONAL BELL HOLDING COMPANIES (RBHCs) – The seven holding companies created by the 1982 Consent Decree that settled the U.S. Department of Justice's antitrust case against AT&T. The seven RBHCs and their respective operating company subsidiaries are: (1) NYNEX Corporation (New York Telephone Company and New England Telephone Company); (2) Bell Atlantic Corporation (New Jersey Bell, Bell of Pennsylvania, Diamond State Telephone, and the Chesapeake and Potomac Telephone Companies of Maryland, Virginia, West Virginia and the District of Columbia); (3) BellSouth Corporation (Southern Bell and South Central Bell); (4) Ameritech Corporation (Michigan Bell, Ohio Bell, Indiana Bell, Illinois Bell, and Wisconsin Telephone Company); (5) Southwestern Bell Corporation (Southwestern Bell Telephone Company); (6) U.S. West (Northwestern Bell, Mountain Bell and Pacific Northwest Bell); and (7) Pacific TELESIS Group (Pacific Bell and Nevada Bell). Two other former Bell System operating companies, Southern New England Telephone and Cincinnati Bell, Inc., were not majority owned by AT&T and are not considered BOCs for the purposes of the various line-of-business restrictions imposed by the antitrust settlement.

RESALE – The furnishing on a commercial basis of communications services by an enterprise using facilities obtained under tariff from a telecommunications carrier.

RESALE CARRIERS (RESELLERS) – Companies that lease bulk-rated transmission capacity from other carriers and use that capacity to provide services to individual customers or groups of customers at prices high enough to make a profit yet sufficiently below the equivalent rates of the facilities-based carriers to attract customers. (See Arbitrage and Secondary Reseller).

REVENUE SETTLEMENT PLAN (RSP) – Introduced in 1977, the RSP is used to divide up revenues from calls made between the serving areas of Telecom Canada companies among member companies.

ROUTE AVERAGING – The process of establishing charges for long distance services that are equal for all calls of the same class and of equal distance.

RSP – See Revenue Settlement Plan.

SECONDARY RESELLER – A resale carrier that essentially acts as a marketer, selling excess capacity on behalf of private firms and taking a percentage of the profits.

SEPARATIONS – In the U.S., the process by which telephone property costs, revenues, taxes and reserves are assigned between interstate operations subject to FCC jurisdiction, and intrastate operations subject to the jurisdiction of the various state regulatory bodies.

SETTLED REVENUES – A telephone company's revenues net of payments to or from other telephone companies involved in completing long distance calls that originate or terminate in its serving area. As such, they differ from originated revenues and represent the actual dependence of a company on particular sources of long distance revenue.

SETTLEMENTS – A procedure by which revenues are distributed among telecommunications carriers for services that may be jointly provided.

SHARED SERVICE – Use on a shared basis by more than one telephone customer of a single tariffed service offered by a telephone company.

SHORT–HAUL – Long distance traffic spanning a limited distance (as opposed to long–haul).

SIGNALLING – The process of passing information between equipment to establish and control telecommunication between points.

SLC – See Subscriber Line Charge.

STATION – A telephone set or equivalent terminal.

SUBSCRIBER LINE – See Access Line.

SUBSCRIBER LINE CHARGE (SLC) – In the U.S., a fixed monthly surcharge to recover a portion of subscriber access costs. The federal SLC is determined by the FCC and recovers a portion of the non–traffic sensitive access costs assigned to the interstate jurisdiction. The balance of these costs not recovered through the SLC are recovered through the Carrier Common Line Charge.

SWITCHED ACCESS – Where the public–switched telephone network is used to connect the customer to a data or voice service provided by a different supplier.

SWITCHED LINE – A communications link for which a circuit is established on a call–by–call basis by means of a telephone company switch.

SWITCHING – Making a temporary connection between the source of information and its intended destination through various transmission devices.

SWITCHING CENTRE – A building that houses one or more central office switches.

TANDEM – Describes a connection in which one or more switches are used in addition to the source and destination end offices.

TANDEM OFFICE – A central office used strictly to link together other offices. A local tandem can be used in a high–density area where it would be uneconomic for direct interconnection to be provided between all end offices.

TANDEM TRUNK – A trunk to or from a tandem office.

TARIFF – The schedule of rates and regulations governing the provision of telecommunications services by a particular carrier.

TELECOM CANADA – A consortium of nine major telephone companies across Canada, including, B.C. Tel, AGT, SaskTel, Manitoba Telephone System, Bell Canada, NBTel, Island Tel, Maritime Tel & Tel, and Newfoundland Tel, together with Telesat Canada. Québec–Téléphone is an associate member. Telecom Canada, under the name TransCanada Telephone System (TCTS), was originally formed in 1931 to facilitate the furnishing of coast–to–coast telephone service. The name TransCanada Telephone System was changed to Telecom Canada in September 1983.

TELEX SERVICE – A public–switched telecommunications service providing for two–way, non–simultaneous written word communications between subscribers using teletypewriter terminals.

T–1 – A digital transmission system operating at a rate of 1.544 Megabits per second with a standard multiplexing format (24 voice grade circuits).

TERMINAL EQUIPMENT – Apparatus or equipment connected to a communications network, generally at a customer's premises, through which a user sends and receives messages.

TERMINATING EXCHANGE – For a particular call, the end office to which the called subscriber's line is connected.

TERMINATING TRAFFIC – Traffic in an end office for which the office is the terminating exchange.

TIE TRUNK – A trunk directly connecting two pieces of switching equipment dedicated to the use of a single customer.

TOLL FREE CALLING AREA – For a particular exchange or telephone subscriber, the geographical area within which other subscribers can be reached without incurring long distance charges.

TOLL OFFICE – An office at which long distance calls are switched.

TRAFFIC SENSITIVE COSTS – Costs which vary as a function of traffic volumes.

TRANSCANADA – A Telecom Canada long distance revenue category. The principal criterion for inclusion is that the calling and called locations be in non–adjacent member companies' serving areas. Revenues derived from certain specifically designated traffic (e.g., Voicecom II, Multicom II, Dataroute, Datalink, Datapac, etc.) are included notwithstanding that such traffic may occur entirely within the serving area of a single member company or in those of adjacent members.

TRANSMISSION – The physical carriage of information from one point to another.

TRUNK – A physical facility connecting two switching machines that can be used to transmit messages or calls between them (one at a time).

TRUNK–SIDE CONNECTION – Connection to a network by means of a trunk.

TWO–PARTY SERVICE – A party line with two users having their telephones connected to the same access line.

VALUE ADDED – An adjective used to describe a service, provided by a reseller, that adds value to the resold service.

VALUE ADDED NETWORK (VAN) – A network through which value added services are provided.

VALUE–OF–SERVICE PRICING – A pricing principle whereby charges for a particular service are related to the notional value of that service to a subscriber, rather than on the basis of causal cost. It is extensively applied in practice in the case of local services, where it is a stated basis for rate group structures and for residential/business rate differentials.

VAN – See Value Added Network.

VIDEOTEX/VIDEOTEXT – A term that describes an interactive telecommunications system which conveys information by manipulating symbols, particularly text, for display on a video screen.

VOICE GRADE – A term used to describe facilities suitable for transmitting a voice signal (300 Hz to 3400 Hz).

WATS (WIDE AREA TELEPHONE SERVICE) – A bulk–rated long distance service used by business customers. The service is provided on a zoned basis and customers lease dedicated access channels for service to specified zones, typically based on Number Plan Areas. Charges for WATS comprise a flat rate for a base volume of calling and usage–sensitive charges for calling above the base volume.

Groupe de travail
fédéral-provincial-territorial
sur les télécommunications

La concurrence dans le service téléphonique interurbain public au Canada

décembre 1988

Rapport

novembre 1988

Aux honorables ministres
responsables des Communications

Nous, soussignés, membres du Groupe de travail chargé de procéder à une enquête sur les facteurs qui seraient reliés à l'implantation de la concurrence dans la prestation du service téléphonique interurbain public au Canada, avons l'honneur de vous présenter le rapport ci-joint.

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Groupe de travail fédéral-provincial-territorial
sur les télécommunications

La concurrence dans le service téléphonique interurbain public au Canada

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ISBN 0-662-56266-6

PRÉFACE

Ce rapport est l'aboutissement d'un processus de collecte de données et d'analyse entrepris en vertu du mandat que les ministres responsables des Communications des gouvernements fédéral, provinciaux et territoriaux ont confié au Groupe de travail en juin 1987.

Dans le cadre de cet examen, des données ont été tirées de diverses études actuelles et, en outre, de nouvelles études portant sur des sujets précis ont été commandées – dont copies sont fournies en annexe au rapport. Les opinions de tiers intéressés à cette question n'ont cependant pas été sollicitées ou étudiées. Le Groupe de travail n'a pas tenté d'élaborer des recommandations quant aux mesures possibles à prendre. Comme tel, le rapport se veut un recueil des données empiriques disponibles qui, comme les membres l'espèrent, contribuera à l'élaboration d'une politique publique valable en matière de concurrence dans la prestation du service téléphonique interurbain public. Il n'est pas question de savoir si la concurrence devrait être permise et, le cas échéant, dans quelles circonstances. Le rapport ne catalogue, pas plus qu'il ne détaille, les vues d'autres parties sur cette question.

Bien que le travail du Groupe de travail ait été intéressant et agréable d'un bout à l'autre, il a parfois été difficile d'en arriver à des conclusions définitives dans certains domaines. Souvent, les données sur des sujets précis n'étaient pas disponibles et lorsqu'elles l'étaient, elles étaient parfois contradictoires ou incohérentes, rendant ainsi presque impossible pour le Groupe de travail de confirmer la véritable nature de certaines relations, par exemple entre la concurrence et la productivité. En outre, dans les délais qui lui étaient impartis, il n'a pas toujours été possible au Groupe de travail d'étudier certaines questions de façon aussi approfondie qu'il l'aurait souhaité ou encore d'examiner toutes les sources d'information disponibles. En dépit de ces difficultés, le Groupe de travail a réussi à s'entendre pour tirer des conclusions dans de nombreux secteurs importants.

Le Groupe de travail aimerait remercier MM. Terry Rochefort, Neil McCallum, Charles Feaver, Anwar Jah et Barry Reed qui ont chacun présidé, respectivement, les quatre comités de travail ainsi que le comité d'étude chargé de rassembler et d'analyser les données pertinentes, les nombreux représentants des diverses délégations qui ont contribué à la rédaction du présent rapport; M. Angus Oliver qui a agi en qualité de coordonnateur du personnel ainsi que M. Tom Grandy, rédacteur-conseil.

C'est la deuxième fois, ces dernières années, qu'un groupe d'organismes canadiens de réglementation et de conseillers de politique représentant des intérêts fédéraux, provinciaux et territoriaux fait une enquête conjointe sur une grande question nationale relative aux télécommunications. En dépit de la complexité des sujets et des diverses perspectives régionales en cause, le Groupe de travail estime avoir atteint les objectifs de son mandat.

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GROUPE DE TRAVAIL FÉDÉRAL–PROVINCIAL–

TERRITORIAL SUR LES TÉLÉCOMMUNICATIONS

La concurrence dans le service téléphonique interurbain public au Canada

Sommaire

SOMMAIRE

1.0 Introduction

Le mandat du Groupe de travail

Ce document renferme le sommaire d'une étude réalisée par un Groupe de travail composé d'organismes de réglementation et de conseillers du secteur des télécommunications des paliers fédéral, provincial et territorial, et consacrée aux facteurs relatifs à l'instauration de la concurrence dans la prestation du service téléphonique interurbain public au Canada. Le rapport a été préparé à la demande des ministres responsables des Communications du fédéral, des provinces et des territoires, à la suite d'une réunion ministérielle tenue à Edmonton les 2 et 3 avril 1987. Le texte du mandat est reproduit à l'intérieur du rapport du Groupe de travail.

Composition du Groupe de travail

Le Groupe de travail était formé de représentants du Conseil de la radiodiffusion et des télécommunications canadiennes (CRTC), ainsi que d'organismes de réglementation des télécommunications ou des ministères de toutes les provinces et territoires. Il était présidé par M. Louis R. (Bud) Sherman, vice-président du CRTC.

Activités relatives à la collecte et à l'analyse de données

Les membres ont convenu de limiter les activités du Groupe de travail à la collecte et à l'étude de données ainsi qu'à la réalisation d'analyses objectives portant sur la concurrence en matière de service téléphonique interurbain public. A cet égard, les membres ont jugé que leur rôle essentiel était de colliger des renseignements et de les analyser, permettant ainsi d'aider les ministres à élaborer les politiques pertinentes. Ils se sont donc attachés à recueillir les données disponibles, avec l'aide de leur personnel respectif et, dans certains cas, avec celle d'experts-conseils de l'extérieur. Le Groupe de travail n'a ni sollicité ni retenu des opinions du grand public parmi lequel certains pouvaient avoir un intérêt vis-à-vis la question de la concurrence dans le service téléphonique interurbain public. On a jugé que la ligne de conduite adoptée ne nuisait pas à l'exercice du pouvoir discrétionnaire quasi judiciaire des organismes de réglementation membres du Groupe de travail, mais qu'elle contribuait à fournir aux ministres une base commune de données leur permettant d'examiner et d'établir leurs politiques de concurrence dans la prestation du service téléphonique interurbain public.

2.0 Marché canadien des télécommunications

La structure du marché

Au Canada, les services de télécommunications sont offerts par une combinaison de sociétés privées, gouvernementales ou mixtes ayant des mandats d'exploitation variables : certaines desservent un seul secteur local, tandis que d'autres desservent l'ensemble du pays. Les compagnies de téléphone, y compris les membres de Telecom Canada ainsi qu'un certain nombre de compagnies de téléphone indépendantes, sont les entreprises majeures de l'industrie actuelle des télécommunications. Elles sont également les fournisseurs, en situation monopolistique, du service téléphonique interurbain public à l'intérieur de leurs zones de desserte respectives. On compte également d'autres télécommunicateurs dont Télésat Canada, transporteur canadien par satellite et membre de Telecom Canada, ainsi que Téléglobe Canada dont le monopole effectif sur la transmission du trafic interurbain outre-mer, à destination ou en provenance des réseaux des compagnies de téléphone au Canada, a été prolongé jusqu'en 1992 à l'occasion de sa récente privatisation. D'autres compagnies comme la B.C. Rail, les Télécommunications CNCP (CNCP), les radiotélécommunicateurs et les fournisseurs de services radio cellulaire offrent également une vaste gamme de services téléphoniques, de transmission de données et de messages. Il existe un nombre croissant de fournisseurs qui utilisent des installations louées pour offrir divers services spécialisés au public. À l'heure actuelle, un grand nombre d'entre eux offrent des services autres que le service téléphonique interurbain public en concurrence avec les compagnies de téléphone et advenant que le service téléphonique interurbain public soit ouvert à la concurrence, ils seraient des entrants possibles. Pour terminer, il y a diverses sociétés qui exploitent des réseaux privés de micro-ondes et qui pourraient constituer un élément important d'un régime concurrentiel dans l'éventualité où l'on permettrait la revente des excédents de capacité aux fins de la fourniture d'un service téléphonique interurbain public.

Revenus du service téléphonique interurbain public

Les principales compagnies de téléphone ont réalisé plus de 5 milliards de revenus provenant de l'interurbain en 1986. Le tableau S-1 présente les données disponibles sur les revenus que ces compagnies ont réalisés sur les services facturés. Les types de services qui intéressent particulièrement les concurrents possibles sont le service interurbain à communications tarifées (SICT - c'est-à-dire, le service téléphonique interurbain ordinaire) et le service interurbain planifié (WATS -c'est-à-dire un service interurbain à tarif de gros utilisé par les abonnés du service d'affaires). Ce sont en général les revenus intracompagnie provenant de ces deux catégories de services qui constituent le plus fort pourcentage des revenus des compagnies de téléphone. Les revenus intercompagnies, Canada-É.-U. et Canada-outre-mer, sont comparativement plus faibles en moyenne mais, pour de nombreuses compagnies, ils sont suffisamment importants pour intéresser les concurrents. Une perspective différente se dégage de l'examen des revenus du service interurbain des compagnies de téléphone, après partage, c'est-à-dire les revenus nets après échange avec les autres compagnies de téléphone des montants dus pour l'acheminement conjoint du trafic

TABLEAU S-1

Revenus réalisés sur le service interurbain public par des compagnies de téléphone canadiennes choisies, 1986 (1) (en millions de dollars)

Compagnie de téléphone	Revenus				
	Intra-compagnie	Intercom-pagnie (2)	Canada-E.-U.	Canada-outre-mer	Total des revenus
Nfld Tel	n/d	n/d	n/d	n/d	70
Island Tel	6	11	1	0	18
MT&T	76	73	9	6	165
NBTel	51	57	8	3	119
Bell Canada (3)	1 961	302	348	345	2 956
Manitoba Tel(4)	71	110	18	11	210
SaskTel	n/d	n/d	n/d	n/d	232
AGT(5)	257	187	36	25	505
B.C. Tel(3)	396	192	72	64	724
Terra Nova	n/d	n/d	n/d	n/d	n/d
Québec-Tél	25	50	n/d	n/d	74
Télébec	10	40	2	0	52
Northern Tel(6,8)	n/d	n/d	n/d	n/d	20
Thunder Bay(6,8)	n/d	n/d	n/d	n/d	19
'edmonton tel'(6)	n/d	n/d	n/d	n/d	n/d
Prince Rupert(6)	n/d	n/d	n/d	n/d	4
Norouestel(7)	8	26	1	1	36
Total (9)	3 021	1 170	507	463	5 204
% des revenus totaux de l'interurbain	57,9%	22,5%	9,7%	8,8%	

Notes:

(1) Service téléphonique interurbain public (interurbain) = SICT, WATS et Service 800; n/d signifie soit non disponible, soit confidentiel.

(2) Les revenus intercompagnies incluent les revenus provenant de services fournis entre deux compagnies de téléphone canadiennes dont les zones de desserte sont contiguës (compagnies adjacentes membres de Telecom Canada) et celles de services fournis entre deux compagnies ou plus dont les zones de desserte ne sont pas contiguës (compagnies transcanadiennes membres de Telecom Canada).

(3) Les revenus du WATS et du Service 800 sont intégrés aux revenus intracompagnie.

(4) Pour l'année se terminant le 31 mars 1987.

(5) Les revenus du Service 800 incluent ceux en provenance de la zone desservie par 'et' et sont intégrés aux revenus intracompagnie.

(6) Services interurbains dispensés par d'autres télécommunicateurs, (par ex., AGT fournit les services interurbains aux abonnés de 'et').

(7) Le WATS et le Service 800 ne sont pas offerts.

(8) Le SICT seulement.

(9) Les totaux des colonnes incluent des renseignements déposés à titre confidentiel. Les totaux des rangées ne correspondent pas à ceux des colonnes étant donné que les compagnies n'ont pas toutes fourni de données discrètes.

SOURCES: Selon les réponses fournies par les compagnies de téléphone aux demandes de renseignements formulées par les membres du Groupe de travail, 30 septembre 1987.

téléphonique (tableau S-2). Comme on l'a noté, les revenus de l'interurbain représentent près de 50 % du total des revenus d'exploitation des compagnies de téléphone canadiennes. En pourcentage des revenus des compagnies de Telecom Canada, ils varient d'un niveau de 47,5 % pour la Island Tel à un niveau de 60,1 % pour la SaskTel, ce qui indique une forte dépendance sur cette source de revenus.

3.0 Expériences étrangères de concurrence en matière de service téléphonique interurbain public

Trois pays, à savoir les États-Unis, le Royaume-Uni et le Japon ont déjà autorisé à différents degrés la concurrence dans la prestation du service téléphonique interurbain public. Le Groupe de travail, aidé du personnel et d'experts-conseils, a examiné la nature, la portée et les répercussions de la concurrence dans ces trois pays.

Concurrence aux États-Unis

Aux États-Unis, l'événement clé qui a présidé au début de la transition à un régime SICT/WATS concurrentiel a été l'introduction par la MCI, en 1974, de l'Execunet, un service interurbain interétats commuté. La Federal Communications Commission (FCC), qui réglemente les communications interétats, a refusé d'approuver les tarifs proposés pour le service Execunet de la MCI, mais celle-ci en a appelé aux tribunaux et a réussi à faire renverser l'ordonnance de la FCC. La Cour a statué que la FCC n'avait jamais établi de façon décisive que l'intérêt public exigeait qu'un fournisseur monopolistique offre le service téléphonique interétats. Ainsi, en 1978, le marché SICT/WATS interétats avait effectivement été ouvert à la concurrence.

Suite à une intervention de la Cour dans l'affaire Execunet, la FCC a ouvert le dossier 78-72, une enquête visant à analyser les répercussions possibles de la concurrence dans la prestation du SICT/WATS et à déterminer si l'intérêt public exigeait la prestation de ces services en régime monopolistique. La FCC s'est déclarée en faveur de l'ouverture du marché du SICT/WATS intérieur. Cette même politique a par la suite été étendue au marché du SICT/WATS international. En somme, la FCC a d'abord commencé par ne permettre qu'une concurrence limitée dans les services de ligne directe et les équipements terminaux au début des années 70 pour en venir aujourd'hui à généraliser la concurrence et réduire la réglementation.

À cette fin, la FCC a classé les entreprises de télécommunications selon qu'elles occupent une position "dominante" ou "non dominante" dans leurs marchés respectifs. Depuis, seules les entreprises dominantes sont assujetties à la réglementation traditionnelle selon un taux de rendement sur la base tarifaire. La FCC ne réglemente actuellement que l'AT&T comme entreprise dominante dans le marché des communications interétats. Dans le marché SICT/WATS international, seules AT&T et les entreprises de télécommunications étrangères sont considérées comme dominantes. Les autres télécommunicateurs (non dominants) sont libres d'entrer sur ces marchés et d'en sortir, de construire ou d'acquérir des installations, d'introduire de nouveaux services et de fixer des tarifs sans intervention de l'organisation de réglementation.

TABLEAU S-2

Revenus après partage réalisés sur le service interurbain public par des compagnies de téléphone canadiennes choisies, 1986 (en millions de dollars)

Compagnie de téléphone	Revenus				Total des revenus d'exploitation	Revenus exprimés en pourcentage du total des revenus d'exploitation			
	Intra-compagnie	Non intra-compagnie (2)	Autre (3)	Total des rev. de l'interurbain		Intra-compagnie	Non intra-compagnie	Autre	% des rev. de l'interurbain
Nfld Tel	n/d	n/d	n/d	79	146	n/d	n/d	n/d	54,2%
Island Tel	6	11	0	17	36	15,7%	31,9%	0,0%	47,5%
MT&T	76	94	0	171	333	23<0%	28,3%	0,0%	51,3%
NBTel	51	79	1	131	258	19,8%	30,5%	0,4%	50,8%
Bell Canada (4)	1 792	1 086	0	2 878	5 946	30,1%	18,3%	0,0%	48,4%
Manitoba Tel (5)	71	117	3	191	377	18,8%	31,1%	0,7%	50,6%
SaskTel	n/d	n/d	n/d	270	450	n/d	n/d	n/d	60,1%
AGT (6)	291	264	8	563	1 066	27,3%	24,8%	0,8%	52,8%
B.C.Tel (7)	322	402	0	724	1 347	23,9%	29,8%	0,0%	53,8%
Terra Nova	9	14	0	23	44	21,3%	30,7%	0,0%	52,0%
Québec-Tél	25	74	1	99	183	13,5%	40,3%	0,6%	54,3%
Télébec	10	50	3	62	114	9,0%	44,0%	2,2%	54,5%
Northern Tel	n/d	n/d	n/d	11	29	n/d	n/d	n/d	39,3%
Thunder Bay	n/d	n/d	n/d	9	23	n/d	n/d	n/d	37,8%
'edmonton tel' (8)	n/d	n/d	n/d	32	238	n/d	n/d	n/d	13,2%
Prince Rupert	n/d	n/d	n/d	1	6	n/d	n/d	n/d	16,7%
Norouestel	8	28	3	39	64	13,1%	43,1%	5,3%	61,6%
Total (9)	2 822	2 399	28	5 301	10 660	25,3%	22,5%	1,4%	49.7%

Notes: (1) Service téléphonique interurbain public= SICT/WATS et le Service 800; n/d signifie soit non disponible, soit confidentiel.
(2) La colonne "non intracompagnie" inclut les revenus partagés provenant de services fournis entre deux compagnies de téléphone canadienne (compagnie adjacente de Telecom Canada et compagnies transcanadiennes) de même que ceux des services Canada-É.-U. et Canada-outre-mer.
(3) La colonne "autre" inclut la part, pour la compagnie, des revenus partagés entre les compagnies indépendantes provenant du trafic transcanadien et Canada-É.-U.
(4) La colonne "intracompagnie" inclut la part, pour Bell Canada, des revenus partagés provenant du trafic entre Bell Canada et les compagnies indépendantes.
(5) Les données pour Manitoba Tel se rapportent à l'année se terminant le 31mars 1987.
(6) Avant les paiements additionnels (évalués à 30,5 millions de dollars et dont les compagnies membres de Telecom Canada sont recevables) dûs rétroactivement à 'et' en vertu de la décision arbitrale rendue le 28 février 1987.
(7) La colonne "non intracompagnie" inclut tous les revenus partagés provenant du WATS et du Service 800. La colonne "intracompagnie" n'inclut que le SICT.
(8) Comformément à la décision arbritale rendue le 28 février 1987.
(9) Les totaux des colonnes incluent des renseignements déposés à titre confidentiel. Les totaux des rangées ne correspondent pas à ceux des colonnes étant donné que les compagnies n'ont pas toutes fourni de données discrètes.

SOURCES: Selon les réponses fournies par les compagnies de téléphone aux demandes de renseignements formulées par des membres du Groupe de travail, 30/09/87.

Démantèlement et égalité d'accès

L'issue, en 1982, du procès anti-trust intenté contre AT&T par le ministère de la Justice des É.-U. constitue un événement déterminant de l'évolution de la structure de l'industrie américaine et des modalités de l'entrée en concurrence. Si le ministère de la Justice avait intenté ce procès à AT&T, c'est surtout qu'il estimait préjudiciable le contrôle qu'elle exerçait sur les services de téléphone local et la fabrication des équipements téléphoniques. L'accord entre le ministère de la Justice et AT&T est entré en vigueur en vertu d'une Modification du jugement final (MJF) sanctionnée par la Cour qui a pris effet le 1er janvier 1984. Par suite de cet accord, AT&T se dessaisissait des 22 compagnies exploitantes de service local Bell (CEB) qui furent consolidées en sept compagnies régionales indépendantes du holding de Bell (CRIHB), et leurs zones de desserte réorganisées en 161 LATA (zones locales de transport et d'accès). La MJF a interdit aux CEB d'accéder aux marchés des services d'information et de la fabrication des équipements d'abonnés. Les CEB étaient néanmoins autorisées à publier des annuaires "Pages Jaunes" et à offrir des services locaux et interurbains dans les limites des LATA, notamment des services d'accès à leurs propres réseaux pour les autres télécommunicateurs offrant des services interurbains. AT&T s'est retrouvée avec Long Lines (sa division de service téléphonique interurbain), Bell Labs (R&D) et Western Electric (fabricant d'équipement téléphonique). Pendant sept ans, elle s'est vu interdire d'utiliser ses propres installations de transmission pour offrir des services de publication électronique, mais elle était libre de livrer concurrence sur les autres marchés se rattachant aux communications.

La MJF imposait comme condition importante que les compagnies exploitantes Bell accordent "un accès égal", dans tous les centraux locaux offrant au moins 10 000 lignes d'accès, à tout télécommunicateur interurbain autorisé à fournir un service interLATA. En vertu de cette disposition, les CEB étaient tenues d'offrir l'accès commuté, aux mêmes conditions, à tous ces télécommunicateurs. La MJF exigeait également qu'au fur et à mesure de la disponibilité de l'égalité d'accès, il devait y avoir élimination progressive de toutes les ententes conclues antérieurement et en vertu desquelles les télécommunicateurs autres que AT&T bénéficiaient de rabais importants de la part des CEB. La Cour voulait ainsi placer sur le même pied tous les télécommunicateurs interurbains.

Frais d'accès interétats

La FCC a élaboré un Plan de frais d'accès comportant trois éléments principaux: premièrement, des frais de ligne d'abonné fixes payables par tous les utilisateurs de services de résidence et d'affaires, dans le but de recouvrer les coûts non sensibles au trafic imputables à la juridiction interétats; deuxièmement, des frais de ligne commune des télécommunicateurs payables par tous les télécommunicateurs interurbains dans le but de recouvrer le reste des coûts non sensibles au trafic et non récupérés directement des abonnés; et troisièmement, une composante de frais sensibles au trafic reliés aux coûts directs d'interconnexion des télécommunicateurs et d'acheminement du trafic SICT/WATS à des télécommunicateurs interurbains depuis une LATA. L'institution du Plan de frais d'accès de la FCC a laissé les CEB (et les compagnies de téléphone indépendantes) en majeure

partie insensibles à la concurrence SICT/WATS interurbaine à l'égard des revenus interétats. La FCC a progressivement augmenté les frais de ligne d'abonné et diminué de façon correspondante les frais de ligne commune des télécommunicateurs, et elle a exigé qu'AT&T remette une partie de ses économies aux abonnés par voie de réduction des frais interurbains interétats. Les autres télécommunicateurs interurbains ont emboîté le pas. Ainsi, les rajustements réglementaires de ce genre ordonnés par la FCC ont largement contribué à la réduction des tarifs interurbains interétats et à l'augmentation des tarifs du service local à taux fixe aux États-Unis. Le système LATA, l'égalité d'accès et le Plan de frais d'accès de la FCC constituent les éléments clés d'une approche face à la concurrence dans la prestation du service interurbain interétats. Le système LATA permet aux concurrents entrant dans une LATA donnée d'offrir leurs services dans toute la LATA alors que le Plan de frais d'accès a pour but d'assurer que les compagnies de téléphone locales seront dédommagées d'avoir offert aux concurrents l'accès à leurs abonnés.

Concurrence au niveau de l'état

L'entrée en concurrence dans le service téléphonique interurbain public aux États-Unis a jusqu'à présent été présenté comme un phénomène interétats. Ces dernières années, les états, qui contrôlent et réglementent individuellement les télécommunications intraétat, ont de plus en plus permis la concurrence dans la prestation du service téléphonique interurbain public intraétat. La plupart des états multiLATA ont autorisé la concurrence sur le marché interLATA et adopté un système de frais d'accès des télécommunicateurs qui s'inspire largement du plan de la FCC. Certains états ont également commencé à remettre en question le marché intraLATA comme monopole naturel et à envisager de permettre un certain degré de concurrence interurbaine intraLATA.

Nouveaux venus et leur performance

Plus de 500 télécommunicateurs interurbains, pour la plupart des revendeurs, offrent à l'heure actuelle des services téléphoniques interurbains interétats et intraétat. Les principaux intervenants sont les trois principales entreprises nationales de télécommunications exploitant leurs propres installations, à savoir AT&T, MCI et US Sprint. Le premier continue de dominer le marché des services interurbains. Mises à part les compagnies de téléphone locales qui assurent une certaine partie des appels interurbains intraLATA, on estimait à 72,5 % la part du marché interurbain intérieur de AT&T pour 1986; MCI en détenait 13,6 % et US Sprint 7,7 %. Les autres télécommunicateurs se partageaient le reste des 6,2 %. Au cours de la période de 1984 à 1987, le total annuel des revenus d'exploitation d'AT&T est demeuré relativement constant à environ 33 ou 34 milliards de dollars. Ses bénéfices nets ont varié de 139 millions de dollars en 1986, en raison d'une réduction d'effectifs et d'une consolidation d'installations, à tout juste un peu plus de 2 milliards en 1987. MCI a porté le total de ses revenus d'exploitation de 2 milliards de dollars en 1984 à 3,9 milliards en 1987. Elle a généré des bénéfices nets à chacune des années 1984 à 1987, sauf en 1986, où elle a subi des pertes de 448 millions de dollars. Le total des revenus d'exploitation pour US Sprint, depuis sa constitution le 1er juillet 1986, s'établissait à environ 1,14 milliard de dollars

en 1986 et à 2,6 milliards en 1987. US Sprint a subi des pertes de 357 millions de dollars avant impôts sur le revenu en 1986 et d'un peu plus de 1 milliard en 1987.

Les répercussions de la concurrence aux États-Unis

Ces dernières années, aux États-Unis, les tarifs du service téléphonique ont subi des variations marquées. Comme on l'a déjà noté, cependant, ces variations sont en grande partie attribuables à des initiatives de réglementation. Récemment, des réductions de l'impôt sur le revenu des sociétés ont modifié également les besoins en revenus et, par ricochet, les tarifs des services téléphoniques. L'indice des prix globaux du service téléphonique, ajusté à l'indice des prix à la concommation (IPC) pour tous les biens et services, qui montrait une tendance générale à long terme à la baisse s'est inversée après 1981 pour amorcer une hausse jusqu'en 1986 (graphique S-3). Ainsi, les prix nominaux des services téléphoniques entre 1981 et 1985 ont augmenté plus rapidement que l'IPC général. Diverses composantes de l'indice des prix des services téléphoniques ont changé de façon dramatique (graphique S-4). Les indices de prix du service local et du service interurbain interétats et intraétat ont tous baissé à peu près au même rythme entre 1977 et 1980. L'indice des prix du service local a augmenté substantiellement après 1980, ce qui indique des augmentations réelles des prix de ces services. En contraste, des baisses dramatiques sont survenues dans l'indice des prix de l'interurbain interétats depuis 1982, les baisses étant moindres pour l'interurbain intraétat après 1984.

En dépit de tarifs locaux mensuels plus élevés, la pénétration du service téléphonique aux États-Unis n'en a pas souffert; en fait, elle a augmenté. Cette hausse peut être attribuée en partie aux mesures que la FCC a prises pour mitiger les effets néfastes possibles de ses décisions. En particulier, la FCC a mis en oeuvre des programmes pour compléter les programmes de la ligne vitale des états et mettre sur pied un Fonds d'universalité du service en vue d'aider à subventionner le coût des installations rurales et autres installations locales coûteuses.

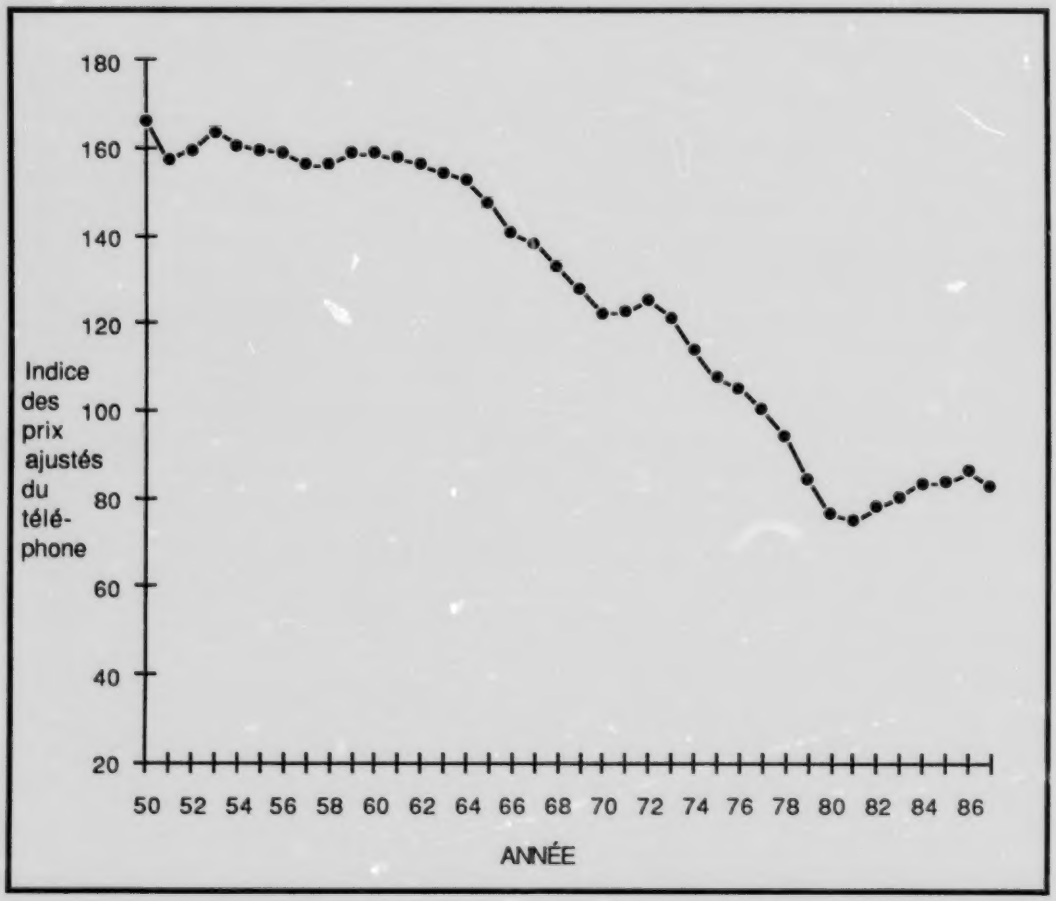
Concurrence au Royaume-Uni

Attribution des licences aux exploitants de télécommunications publics

En 1981 et 1984, respectivement, le Royaume-Uni a pris des mesures législatives pour introduire la concurrence (limitée) dans la prestation du service téléphonique intérieur et international. Parallèlement, l'industrie du téléphone au Royaume-Uni a été privatisée et un système d'attribution de licences aux exploitants de télécommunications publics a été créé. Des licences ont été octroyées à deux télécommunicateurs principaux, nommément, le British Telecommunications plc (comprenant les services de télécommunications privatisés du Service national des postes [National Post Office]) et un nouvel entrant, la compagnie Mercury Communications Ltd., filiale à part entière de la Cable and Wireless plc également privatisée. L'entrée est sévèrement contrôlée par le processus actuel d'attribution de licences et le gouvernement du Royaume-Uni a indiqué qu'aucune autre entrée pour la prestation de services de télécommunications ne serait autorisée avant 1990.

Graphique S-3

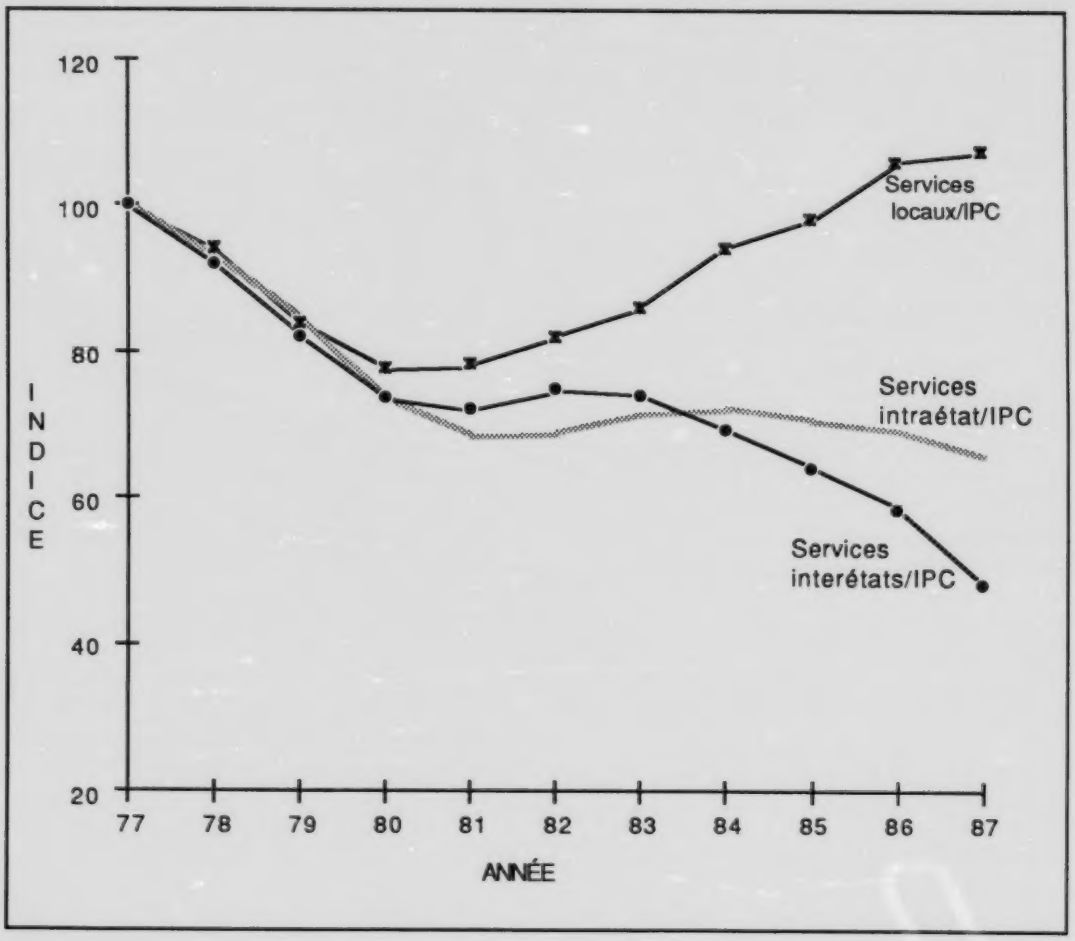
Indice des prix du téléphone aux États-Unis
ajusté à l'indice total des prix à la consommation
(Année de base 1977)



SOURCE: David Chessler and Associates, étude commandée par le Groupe de travail.

Graphique S-4

Indice des prix ajustés du téléphone aux États-Unis
(Année de base 1977)



SOURCE: David Chessler and Associates, étude commandée par le Groupe de travail.

Activités concurrentielles de Mercury

Depuis son entrée dans le domaine des télécommunications en 1982, Mercury s'est dotée d'un réseau intervilles étendu couvrant l'Angleterre et l'Écosse. De plus, elle a mis sur pied des réseaux locaux dans certaines parties de plusieurs villes clés et elle a établi des stations terrestres pour le service international. Ce n'est qu'en 1985, cependant, que des questions en suspens concernant l'interconnexion des réseaux de British Telecom et de Mercury ont été résolues grâce à l'intervention du gouvernement. Mercury n'a donc commencé à offrir un service téléphonique public commuté qu'en 1986.

Alors que la licence attribuée à British Telecom, à titre de télécommunicateur dominant, l'oblige à offrir des services de télécommunications universels dans tout le Royaume-Uni, Mercury n'a pas d'obligation semblable. Sa licence lui permet plutôt de desservir des régions au Royaume-Uni qu'il est, pour elle, économiquement possible de desservir. Néanmoins, Mercury a rapporté en octobre 1987 qu'environ 65 % de la population du Royaume-Uni avait accès à ses services. L'accès au réseau de Mercury était, en fait, possible à cette époque dans plus de 70 zones d'accès du Royaume-Uni; 23 nouvelles zones se sont ajoutées au cours de l'hiver 1987-1988.

Performance des télécommunicateurs en régime de concurrence

Le total des revenus d'exploitation de British Telecom est passé d'environ 6 milliards de livres sterling en 1983 à près de 10 milliards de livres en 1988. Au cours de la même période, les bénéfices nets ont augmenté dans l'ensemble de quelque 44 % pour atteindre près de 1,5 milliard de livres en 1988. Les revenus d'exploitation totaux de Mercury ont fluctué entre 0,2 million de livres et 13 millions de livres au cours de la période de 1983 à 1987. En dépit de revenus d'exploitation négatifs pour chacune des années, Mercury a récemment enregistré des bénéfices nets positifs, en grande partie à cause de crédits d'impôt.

Il n'existe aucune statistique digne de foi permettant d'évaluer la part du marché détenue par Mercury. Une comparaison du total des revenus d'exploitation indique que les revenus de Mercury en 1987 ne s'élevaient qu'à 13 millions de livres contre un peu plus de 9 milliards pour British Telecom. Cependant, Mercury a fait quelques incursions dans le bassin d'abonnés de British Telecom, notamment parmi les grosses entreprises abonnées au service d'affaires, dont un grand nombre sont maintenant des abonnées des deux compagnies.

Changements tarifaires au Royaume-Uni

Les tarifs de British Telecom sont établis en fonction d'une formule de contrôle des prix qui fait en sorte que les majorations moyennes de prix de la compagnie ne soient pas supérieures au taux d'inflation moins 3 %, calculé après-coup. Dans les limites de cette formule, depuis 1984, les tarifs interurbains sur de courtes distances de British Telecom ont augmenté tant dans les périodes de pointe que dans les périodes à escomptes tandis que ses tarifs sur de plus longues distances ont baissé. Sur une moyenne pondérée, ses tarifs interurbains ont augmenté de 2 % et de 3,7 % en 1984 et 1985 respectivement et baissé de 0,3 % en 1986. Ses

tarifs locaux ont en général augmenté au cours des dernières années. En 1986 cependant, British Telecom a répliqué à la concurrence du service local livrée à Londres par Mercury en abaissant ses tarifs locaux les plus élevés dans cette zone. En général, Mercury a fixé des prix pour ses services locaux et interurbains en-deçà de ceux de British Telecom.

Dans la majorité des villes où elle offre des services, Mercury utilise le réseau local de British Telecom pour l'accès aux abonnés. British Telecom ne facture à Mercury que les coûts directs d'interconnexion, tant initiaux que courants. Elle n'exige pas (comme les États-Unis l'ont fait dans le Plan de frais d'accès) de contribution pour les coûts non sensibles au trafic de l'accès aux abonnés.

Concurrence au Japon

Nouvelle structure de l'industrie

Le 1er avril 1985, le Japon mis en vigueur des lois qui portaient création d'une structure industrielle concurrentielle et réorganisait la Nippon Telegraph and Telephone Public Corporation (NTT), l'ancien fournisseur monopolistique du service téléphonique au Japon, en une nouvelle compagnie privée. Dans la nouvelle structure, les entreprises de télécommunication japonaises ont été divisées en deux catégories : les télécommunicateurs de type I, qui fournissent des services de télécommunications à partir de leurs propres installations, et les télécommunicateurs de type II, qui fournissent des services de télécommunications en acquérant des installations des télécommunicateurs de type I. Les télécommunicateurs de type II sont aussi subdivisés en deux catégories, nommément les télécommunicateurs spécialisés de type II qui ont des activités à grande échelle au niveau national ou offrent des services entre le Japon et des points situés à l'étranger, et les télécommunicateurs généraux de type II. Les contrôles d'entrée sur les marchés et les tarifs varient selon le type de télécommunicateurs. Les télécommunicateurs de type I doivent obtenir du ministère des Postes et Télécommunications l'autorisation de construire leurs propres installations de télécommunications. Les télécommunicateurs spécialisés de type II doivent être immatriculés auprès du Ministère, alors que les télécommunicateurs généraux de type II sont uniquement tenus d'aviser le Ministère de leur intention de fournir le service. De la même façon, les contrôles sur les tarifs sont différents : les télécommunicateurs de type I doivent faire approuver leurs tarifs, les télécommunicateurs spécialisés de type II doivent en notifier les autorités et, les télécommunicateurs généraux de type II ne sont assujettis à aucune réglementation.

Pour ce qui est des prises de participation étrangères, la loi japonaise stipule que moins du tiers des actions d'un télécommunicateur de type I pourra être détenu par des étrangers, sauf dans le cas des compagnies NTT et Kokusai Denshin Denwa Company, Limited (KDD), l'ancien fournisseur monopolistique de services de télécommunications internationaux, dont aucune des actions ne peut être acquise par des étrangers. Par contre, la loi ne prévoit aucune restriction à la prise de participation par des étrangers dans des entreprises de télécommunications de type II.

Nature et portée de l'entrée sur le marché

À la fin de 1987, il y avait 31 télécommunicateurs de type I autorisés et, en novembre 1987, 17 télécommunicateurs spécialisés de type II et 452 télécommunicateurs généraux de type II. Des 31 télécommunicateurs de type I, 18 étaient des entreprises de télé-appel. Les 13 compagnies restantes comprenaient NTT, KDD, trois télécommunicateurs par relais assurant des services téléphoniques interurbains et des services de location, quatre télécommunicateurs régionaux offrant principalement des services de location, trois compagnies de satellite comptant offrir des services de location en 1989 et deux télécommunicateurs internationaux projetant d'offrir des services téléphoniques internationaux et des services de location en 1989-1990.

Les 17 télécommunicateurs spécialisés de type II offrent principalement des services nationaux de commutation par paquets ou de transmission de données, des services de revente de circuits sur le marché intérieur et des services téléphoniques commutés assurés par le truchement de réseaux loués. Nombre de ces télécommunicateurs sont des exploitants de réseaux à valeur ajoutée (RVA), c'est-à-dire qu'ils offrent une valeur ajoutée par rapport aux installations de transmission de base louées des télécommunicateurs de type I.

Bien que les 452 télécommunicateurs de type II généraux soient disséminés dans l'ensemble du Japon, près de la moitié d'entre eux sont localisés à Tokyo et dans sa banlieue. Ils offrent divers services de transmission de la voix, de données et d'images. Les services téléphoniques de qualité vocale consistent principalement en des services de courrier ou de lignes louées, de sorte qu'ils ne constituent pas des concurrrents importants dans le marché des services téléphoniques interurbains commutés.

Répercussions de la concurrence sur les tarifs

Avant l'arrivée de la concurrence au Japon, la structure de tarification de NTT se caractérisait par des écarts de prix importants entre les services locaux et interurbains. On considérait que le service interurbain interfinançait le service local. En dépit de ce déséquilibre de prix et de la possibilité de fixer des prix très bas, les nouveaux entrants n'ont pas abaissé leurs tarifs à plus de 20 % en-dessous de ceux de NTT. De plus, NTT ne charge aux autres télécommunicateurs que les coûts directs d'accès à son réseau local et elle a refusé d'imposer des frais d'accès pour compenser les manques à gagner éventuels sur les services locaux. En fait, NTT a indiqué que si les prix perçus par les nouveaux télécommunicateurs se situent à 20 % de ceux de NTT, alors celle-ci ne percevra pas de frais d'accès. Le marché nippon des télécommunications croît rapidement et on estime qu'il y a suffisamment de place pour la concurrence sans qu'il soit nécessaire de recourir au genre de mesures adoptées aux États-Unis.

4.0 Concurrence ou monopole - principaux facteurs influençant le choix

On a passé en revue divers facteurs techniques, opérationnels et économiques susceptibles de justifier le choix d'un régime monopolistique par rapport à un régime concurrentiel pour la prestation du service téléphonique interurbain

public. Le Groupe de travail s'est servi dans la collecte des données à ce sujet d'un certain nombre de travaux d'experts-conseils exécutés à sa demande.

Aspects techniques et opérationnels de la concurrence

Les compagnies de téléphone canadiennes semblent avoir suivi les développements technologiques internationaux et elles ont mis en place l'un des réseaux de télécommunications les plus modernes et les plus efficaces au monde, du point de vue fonctionnel. Les responsable des politiques pour le Canada ont à répondre à une question clé, à savoir si le maintien d'un monopole sur la prestation du service interurbain est, plus que la concurrence, susceptible de promouvoir à l'avenir l'innovation des techniques et des services et, par conséquent, permettre d'offrir des services améliorés au grand public.

Un rapport d'experts-conseils sur des répercussions définies de la concurrence aux États-Unis nous éclaire sur le sujet. Il révèle que la concurrence a entraîné une innovation sensiblement plus forte dans les structures de prix. Elle a eu pour effet, dans l'ensemble, de créer une gamme de services de lignes directes et de réseaux commutés correspondant de beaucoup plus près aux besoins des abonnés et aux prix qu'ils sont prêts à payer. L'expérience ne s'est cependant pas révélée complètement positive. Le rapport souligne que la nouvelle structure de l'industrie du téléphone aux États-Unis a engendré davantage de confusion et de complexité. Par exemple, les modalités de facturation sont plus complexes. De plus, pour les abonnés du service d'affaires, la concurrence dans la prestation du service de lignes directes et la fragmentation de ce marché ont entraîné des complexités qui pourraient se traduire par des retards dans la commande de services, des erreurs de facturation et la confusion concernant les structures tarifaires. Au cours des dernières années, l'industrie des télécommunications s'est développée à un rythme accéléré et a connu des mutations technologiques majeures, mais il est difficile d'attribuer spécifiquement le rythme de ce développement soit à la présence soit à l'absence de la concurrence dans quelque segment du marché. Les progrès technologiques se sont concentrés sur l'introduction d'installations de transmission numérique et de réseaux de fibres optiques de grande capacité.

Le Groupe de travail n'a pu trouver de données concluantes concernant les répercussions de la concurrence du SICT/WATS sur la recherche et le développement en matière de télécommunications aux États-Unis. D'une part, certains analystes craignent qu'un manque de coordination ainsi que la réticence des télécommunicateurs à partager des renseignements stratégiques nuisent à l'élaboration et à l'adoption de nouveaux systèmes et de nouvelles normes. On craint également que les compagnies concurrentes recherchent les profits à court terme et évitent les projets de plus longue haleine. D'autre part, certains observateurs laissent entendre que la concurrence stimulera la recherche et le développement en apportant des occasions d'affaires précises aux télécommunicateurs qui seront les premiers à améliorer leur rendement et à mettre au point de nouveaux systèmes. Pour ce qui est de trouver des données reliant la recherche et le développement à la concurrence, la situation aux États-Unis se complique du fait que le démantèlement d'AT&T a changé son mode de recherche et de développement ainsi que celui des compagnies exploitantes de Bell.

La qualité du service aux États-Unis a également changé au fil des ans. Lorsque la concurrence a été introduite pour la première fois, les télécommunicateurs autres qu'AT&T n'avaient pas un accès comparable aux réseaux locaux des compagnies. Les abonnés se plaignaient donc d'avoir à composer plusieurs fois un numéro pour établir une communication ou encore maugréaient à propos de leurs factures ou de la qualité du signal. L'égalité d'accès ayant éliminé les différences entre les télécommunicateurs, les plaintes des abonnés ont diminué. De plus, comme les écarts tarifaires ont diminué avec l'égalité d'accès pour les télécommunicateurs, ceux-ci sont contraints de miser davantage sur d'autres aspects de différenciation du service.

Répercussions des coûts de la concurrence sur l'industrie

La concurrence pourrait influer directement sur les coûts de prestation aux Canadiens et aux Canadiennes du service téléphonique interurbain public. Trois éléments clés influent sur la structure de coûts de l'industrie : les économies d'échelle et de portée, les changements de productivité, et ce qu'il en coûte directement aux compagnies de téléphone pour donner, aux télécommunicateurs concurrents, l'accès à leurs réseaux locaux.

Économies d'échelle et de portée

Le Groupe de travail a commandé une étude-conseil pour examiner l'influence des changements technologiques sur les économies d'échelle et de portée dans les télécommunications interurbaines. L'étude a été faite par voie d'analyse des informations canadiennes et américaines disponibles dans quatre domaines : des données techniques concernant les modalités techniques de commutation et de transmission interurbaines présentes et projetées, principalement par commutation et par transmission numériques, et par fibres optiques; des données financières; les données comptables; et des études économétriques.

Les notions d'économies d'échelle et de portée peuvent servir à définir la nécessité de l'exigence d'un monopole naturel. De façon spécifique, on parle d'un monopole naturel lorsqu'une seule entreprise est capable d'assurer la production de l'industrie à un coût total moins élevé que si deux ou plusieurs entreprises s'en chargeaient. Un monopole naturel peut exister si des économies d'échelle ou de portée sont présentes, mais la présence de l'une ou de l'autre ne garantit pas, en soi, un monopole naturel. Toutefois, si des économies d'échelle et de portée existent simultanément, il y a assurément un monopole naturel. À cet égard, le Groupe de travail a trouvé convaincants les renseignements, obtenus par la démarche du point de vue technique où l'expert-conseil admet l'exitence d'économies d'échelle dans le réseau de transmission, même si, par ailleurs, un faible pourcentage seulement des coûts d'une entreprise est inclus dans cette catégorie. Le Groupe de travail a cependant jugé non concluants d'autres renseignements à l'égard des économies d'échelle et de portée qui ne visent pas non plus tous les autres facteurs pertinents à la question du monopole naturel. Il a donc conclu que les renseignements disponibles ne sont pas suffisants pour permettre de trancher la question de savoir si le marché téléphonique interurbain public au Canada constitue ou non un monopole naturel.

Les répercussions de la concurrence sur la productivité

Le Groupe de travail a entrepris de cerner les répercussions que la concurrence dans la prestation du service téléphonique interurbain public aurait sur la productivité. Dans ce contexte, on dit qu'il y a accroissement de la productivité lorsque le coût par unité de production diminue. Selon la preuve empirique disponible, les industries des télécommunications au Canada, aux É.-U. et au R.-U. ont connu des augmentations substantielles de productivité au cours des deux dernières décennies. Toutefois, il n'existe qu'une preuve empirique restreinte pour identifier les divers facteurs qui peuvent influer sur la productivité, notamment les changements technologiques, les économies d'échelle et de portée, les modifications apportées à la réglementation et, enfin, la concurrence.

Certains arguments théoriques et certaines études microéconomiques donnent à entendre que toutes les autres données étant égales, l'efficacité au niveau de l'entreprise devrait être supérieure en régime concurrentiel qu'en régime monopolistique. Toutefois, le Groupe de travail n'a pu trouver de preuve empirique concluante à l'appui d'une telle conclusion dans le cas des compagnies de téléphone. Dans le cas où de telles efficiences au niveau de l'entreprise existent, elles pourraient être annulées par la perte d'économies d'échelle.

Une étude commandée par le Groupe de travail a permis de constater que l'expérience américaine n'était pas concluante à l'égard des répercussions de la concurrence sur la productivité des télécommunications. La recherche empirique effectuée par l'expert-conseil sur cette question ne s'est pas révélée plus concluante. Certains autres changements récents dans l'industrie américaine, y compris le démantèlement et diverses initiatives de réglementation, peuvent également avoir influencé les niveaux de productivité, rendant ainsi difficile d'isoler les répercussions de la concurrence.

Faute d'une mesure quantitative fiable de l'impact de la productivité qui pourrait être utilisée dans sa modélisation financière de la concurrence, le Groupe de travail a préféré adopter une méthode qui consiste à déterminer les gains de productivité précis que la concurrence devrait générer pour compenser ses répercussions négatives sur les revenus de chaque compagnie de téléphone.

Coûts de l'accès aux télécommunicateurs

L'entrée concurrentielle sur le marché du service téléphonique interurbain public au Canada obligerait les compagnies de téléphone à engager des coûts pour modifier leurs réseaux actuels de manière à fournir aux concurrents l'accès aux abonnés. Le Groupe de travail a constaté que les coûts de modification du réseau seraient nuls si les autres fournisseurs de services utilisaient la forme rudimentaire d'interconnexion employée aux États-Unis lorsque la concurrence a fait son apparition. Comme première approximation, avec un mode d'interconnexion amélioré, le total, pour l'industrie, des coûts de modification du réseau se situerait entre un million et 213 millions de dollars environ (dollars de 1990) selon la forme d'accès et le nombre de centres locaux, y compris le service régional, étendu où les services des concurrents seraient disponibles. Le total des coûts de

modification pour l'égalité d'accès varierait entre 98 millions de dollars environ pour les centres locaux comptant au moins 100 000 services d'accès aux réseaux à quelque 209 millions de dollars pour tous les centres locaux.

Les coûts courants d'accès aux télécommunicateurs seraient d'environ 0,02 $ la minute, au départ et à l'arrivée d'un appel interurbain, sauf pour l'option d'égalité d'accès où des coûts additionnels seraient appliqués pour le travail administratif se rapportant à la détermination du télécommunicateur de premier choix. On ne sait pas à combien équivaut ce coût additionnel étant donné que le roulement annuel des abonnés influerait grandement sur le coût. Le total des coûts annuels courants se situerait entre 28 millions et 122 millions de dollars environ (dollars de 1986), selon, principalement, le nombre de centres locaux en cause et la part du marché obtenue par le concurrent (une part maximale du marché de 20 % a été étudiée).

Il est bon de souligner que certains de ces coûts ne seraient engagés que si l'entrée concurrentielle était autorisée, alors que certains autres le seraient de toutes façons, que la concurrence soit permise ou non.

Élasticité de la demande par rapport aux prix

L'élasticité de la demande par rapport aux prix est un élément clé pour estimer les répercussions des revenus, générés par la concurrence, sur les compagnies de téléphone. Elle est une mesure qui permet d'évaluer de quelle façon les quantités demandées réagissent aux variations des prix, tous les autres facteurs étant constants; elle se définit comme étant la variation en pourcentage des quantités demandées d'un produit, divisée par la variation en pourcentage du prix de ce produit. Ainsi, si tous les tarifs interurbains étaient réduits et si l'élasticité de la demande par rapport aux prix est élastique (c'est-à-dire, si la valeur de l'élasticité par rapport à la portion pertinente de la fonction demande est supérieure en valeur absolue à 1) alors, les autres facteurs étant constants, l'ensemble des revenus (marché total) augmenterait et les compagnies de téléphone ainsi que les nouveaux entrants auraient un plus gros "gâteau" à se partager. Si la demande est inélastique (c'est-à-dire, la valeur absolue de l'élasticité de la demande par rapport aux prix est inférieure à 1), alors l'ensemble des revenus (marché total) diminuerait si les tarifs interurbains étaient réduits. Dans la mesure où la concurrence provoque une baisse des tarifs pour les fournisseurs de services existants et nouveaux, les répercussions sur les revenus de l'ensemble du marché peuvent être soit positives soit négatives selon que la demande est élastique ou inélastique.

Dans la collecte de données sur l'élasticité de la demande par rapport aux prix, le Groupe de travail a eu recours à une étude d'expert-conseil permettant d'analyser et d'évaluer d'un point de vue critique les ouvrages spécialisés consacrés à l'élasticité de la demande du service téléphonique interurbain public par rapport aux prix au Canada. L'expert-conseil en est arrivé à la conclusion que les estimations les plus plausibles des élasticités de la demande par rapport aux prix des diverses catégories du service téléphonique interurbain sont les suivantes :

SICT intracompagnie	:	−0.5	à	−0.7
SICT intercompagnies	:	−0.55	à	−0.85
SICT Canada–É.–U.	:	−0.65	à	−1.00
SICT international	:	−0.6	à	−1.20

L'expert–conseil a noté que les estimations d'élasticité du SICT constituent en fait un hybride des répercussions des variations dans les prix tant du SICT que du WATS.

Les points médians de l'élasticité de la demande par rapport au prix estimée par l'expert–conseil, ont été utilisés dans la modélisation financière de la concurrence dans la prestation du service téléphonique interurbain public au Canada. Ces valeurs sont inélastiques, de sorte que les répercussions totales sur les revenus d'une réduction des tarifs serait négative -- c'est–à–dire, alors que les abonnés pourraient bénéficier de tarifs inférieurs, les services interurbains au total généreraient des revenus plus faibles.

Répercussions macroéconomiques de la concurrence

Le Groupe de travail a révisé plusieurs études macroéconomiques canadiennes et américaines dans le but de déterminer les effets probables de la concurrence dans la prestation du service téléphonique interurbain public sur l'économie canadienne dans l'ensemble. Diverses études ont été menées dans le but premier d'évaluer les répercussions macroéconomiques de changements spécifiques des structures tarifaires; leurs résultats ne peuvent cependant être utilisés pour déterminer, de façon non équivoque, les répercussions de la concurrence sur l'économie. Les modèles macroéconomiques utilisés dans ces études exigent comme intrant une prévision de la variation au niveau global du prix des télécommunications la découlant de la question à l'étude. Comme on l'a noté précédemment, le calcul des variations au niveau global du prix des télécommunications par suite de la concurrence est une question complexe où entrent en ligne de compte la structure tarifaire avant et après la concurrence, les effets au niveau de la productivité, les variations dues aux des économies d'échelle et de portée, la stimulation de la demande et ses effets possibles sur les revenus et, par là, sur les tarifs, etc. Les données disponibles ne permettent pas de tirer de conclusions sur les relations entre la concurrence et certains des facteurs qui pourraient influer sur le niveau global du prix des télécommunications. C'est pourquoi, il n'est pas possible, d'affirmer, à partir de ces données, si la concurrence entraînerait ou non des effets macroéconomiques positifs ou négatifs.

Quoi qu'il en soit, les résultats de ces études permettent d'évaluer certaines des répercussions économiques possibles de la concurrence. Dans la mesure où la concurrence se traduirait par une restructuration tarifaire, (soit uniquement par une réduction des tarifs interurbains, soit par une réduction des tarifs interurbains accompagnée d'une augmentation compensatoire des tarifs locaux, sans toutefois modifier la rentabilité globale des compagnies de téléphone), ces études indiquent généralement qu'on pourrait s'attendre à des avantages macroéconomiques. Cependant, il faut préciser que les études examinées indiquent les effets qui résulteraient uniquement d'une restructuration tarifaire -- ce qui pourrait se faire même sans l'entrée en concurrence. Les membres du Groupe de

travail signalent également qu'il ne faut utiliser les résultats de ces études qu'en toute connaissance des hypothèses sous-jacentes.

5.0 Nature de l'entrée de la concurrence sur le marché du service téléphonique interurbain au Canada

Le régime concurrentiel a été étudié sur le plan des modèles de concurrence possibles, des effets de la concurrence sur l'universalité d'un service téléphonique abordable, des nouveaux entrants possibles et de scénarios de concurrence précis.

Modèles de concurrence pour le Canada

Trois grands modèles de concurrence ont été étudiés pour le Canada : a) un marché concurrentiel non réglementé; b) un marché entièrement réglementé; ou c) un modèle intermédiaire en vertu duquel seuls les télécommunicateurs dominants sont réglementés. Les principales caractéristiques de chacun sont exposées ci-après.

Modèle du marché concurrentiel non réglementé

Un marché concurrentiel entièrement déréglementé dans lequel tous les télécommunicateurs, c'est-à-dire les compagnies de téléphone et les nouveaux entrants, seraient libres de livrer concurrence en grande partie sans contrôle règlementaire, représente un scénario extrême. Dans ce scénario, il faudrait que les services monopolistiques restants, comme le service téléphonique local, soient réglementés et qu'une surveillance très attentive soit assurée pour détecter les risques d'interfinancement des services concurrentiels par les services monopolistiques.

Dans un tel contexte, des pressions seraient exercées pour une fixation en fonction des prix d'un marché concurrentiel. À cet égard, on s'attend généralement à ce que les tarifs du service interurbain seraient sensiblement réduits, ce qui pourrait exercer des pressions pour des augmentations des tarifs pour les services supposément tarifés à des niveaux inférieurs aux coûts de causalité, même s'ils étaient fournis sur une base monopolistique. Ce processus de rajustement tarifaire pourrait également être obtenu par un rééquilibrage délibéré des tarifs des services local et interurbain comme l'ont proposé certaines compagnies de téléphone. Les télécommunicateurs chercheraient probablement des structures de prix souples pour répondre à la concurrence. Par exemple, on pourrait s'attendre à ce que de nouveaux entrants se concentrent sur des routes de forte densité, pressant les compagnies de téléphone à supprimer les tarifs moyens existants en faveur d'une tarification selon les régions géographiques. Ainsi, contrairement à la pratique actuelle, les routes à forte densité entre les grands routes de population pourraient être tarifées à des prix inférieurs à ceux qui s'appliquent aux routes à faible densité, par exemple dans des zones rurales et éloignées.

De plus, on pourrait s'attendre à ce que les télécommunicateurs instituent une gamme plus étendue qu'actuellement de rabais selon le volume, élaborent des programmes de vente spéciaux et, dans certains cas, emploient des ententes contractuelles spéciales plutôt que des taux de tarif général. L'expérience de la

concurrence à l'étranger révèle que les rabais actuels en périodes creuses pourraient également changer, des rabais relativement plus bas pouvant être offerts, par exemple, en soirée et la nuit.

Une étude effectuée à la demande du Groupe de travail a révélé que, pour entrer dans ce marché et y survivre, les nouveaux télécommunicateurs exploitant leurs propres installations devraient absolument, du moins au cours de la période de mise en marche, disposer d'un avantage au niveau des prix en regard des compagnies de téléphone. Sans cet avantage, aucune combinaison d'options de service ou, autre avantage non monétaire, ne permettrait aux télécommunicateurs exploitant leurs propres installations de livrer concurrence. En se fondant sur les attentes des utilisateurs, une réduction des prix d'au moins 10 % associée à des contraintes minimales quant aux aspects non monétaires permettrait à un nouveau concurrent de s'approprier une part appréciable du marché.

Modèle de la réglementation du télécommunicateur dominant

Les télécommunicateurs dominants peuvent se définir comme les fournisseurs de services capables d'occuper une position de force sur le marché (p. ex., ayant la capacité d'établir des prix de manière à obtenir des profits exorbitants, d'utiliser des structures de prix prédatrices ou discriminatoires). Par contre, les fournisseurs non dominants ne seraient pas susceptibles d'occuper de position de force sur le marché et, conséquemment, l'obligation d'appliquer la réglementation traditionnelle en matière de services publics peut être remise en question. En vertu de ce modèle, si la concurrence interurbaine était autorisée, les compagnies de téléphone continueraient d'être réglementées en fonction d'un taux de rendement tandis que les nouveaux venus ne seraient probablement pas assujettis à la réglementation.

Dans ce modèle, les organismes de réglementation disposeraient des moyens d'imposer, particulièrement aux télécommunicateurs dominants l'obligation de fournir le service, des critères d'entrée et de sortie, et des normes de qualité du service. L'obligation de fournir le service pourrait imposer des restrictions sur la possibilité pour les télécommunicateurs dominants de sortir du marché interurbain ou limiter leur participation à ce marché. Afin d'atteindre des objectifs de non-discrimination de prix, il pourrait également s'avérer nécessaire d'exiger qu'on continue d'appliquer la pratique actuelle de tarifs moyens et uniformes sur toutes les routes, des prix uniformes, des normes minimales de qualité de service et la prestation de services aux mêmes conditions dans toutes les zones de desserte des télécommunicateurs. Ces exigences pourraient être imposées aux télécommunicateurs dominants par voie de réglementation. Dans le cas des télécommunicateurs non dominants, deux approches seraient possibles : premièrement, permettre au marché de décider et, deuxièmement, imposer des obligations par voie d'un processus d'attributions de licence.

Si l'on conservait la réglementation traditionnelle en fonction d'un taux de rendement pour les télécommunicateurs dominants, la capacité de l'entreprise de réagir aux conditions du marché pourrait être limitée. En conséquence, quelques solutions de rechange ont été considérées pour permettre aux télécommunicateurs dominants de réagir plus facilement aux conditions du marché. Premièrement, les

télécommunicateurs pourraient fonctionner dans un régime de plafonnement des prix, ce qui limite l'ampleur des hausses du prix et des services, tout en tenant compte du taux d'inflation et les gains de productivité prévus. Deuxièmement, dans l'optique d'un contrat social, la compagnie de téléphone serait tenue de limiter les augmentations de ses tarifs pour le service local en contrepartie d'une réglementation moindre de ses autres services, notamment le service interurbain. Troisièmement, une réglementation fondée sur l'incitation dans le cadre de laquelle la compagnie serait autorisée à garder une partie des profits "supplémentaires" s'ils proviennent d'activités souhaitables sur le plan social ou économique; dans le cas contraire, elle serait pénalisée. Il serait nécessaire de faire une analyse exhaustive des avantages et des inconvénients de chaque solution avant de pouvoir évaluer une utilité dans un contexte canadien.

Modèle de réglementation totale du marché

Ce modèle pose une hypothèse en vertu de laquelle tous les participants du marché seraient entièrement réglementés. Elle a pour avantage de minimiser les variations de tarifs et de donner aux organismes de réglementation le pouvoir de contrôler tous les aspects de l'entrée, de la sortie et de la prestation des services. Du côté négatif, les coûts de la réglementation pourraient augmenter de manière sensible et il pourrait y avoir moins d'incitatifs à la réduction des coûts et à l'innovation. De plus, la réglementation tarifaire et surtout l'exigence voulant que tous les tarifs soient assujettis à un préavis et à une préexamen tendraient à inhiber la capacité de réagir rapidement aux conditions du marché.

Concurrence et universalité d'accès à un service téléphonique abordable

Le débat sur l'ouverture à la concurrence du service téléphonique interurbain a soulevé une question majeure, à savoir celle de son impact potentiel sur le maintien de l'universalité d'accès à un service téléphonique abordable. En effet, dans la mesure où la concurrence entraînerait une réduction des revenus interurbains des compagnies de téléphone, et surtout une diminution de la contribution au recouvrement des coûts d'accès, des augmentations des tarifs locaux pourraient être nécessaires. Les quelques mécanismes qui sont décrits ci-dessous pourraient servir soit à freiner l'ampleur d'une augmentation potentielle des tarifs locaux soit à en amortir l'impact.

Frais de contribution des télécommunicateurs

Les télécommunications concurrents pourraient être tenus de fournir une contribution par voie de frais explicites, établis par les organismes de réglementation, de manière à assurer le maintien de tarifs locaux bon marché. Ainsi, la contribution attribuable aux services interurbains pour le recouvrement des coûts d'accès continuerait d'être faite par voie de paiements de contribution des concurrents et des compagnies de téléphone.

Les paiements de contribution pourraient être recouvrés des concurrents soit par voie de frais mensuels fixes pour chaque circuit d'interconnexion, soit par des frais par minute selon le volume du trafic acheminé par un concurrent, soit en pourcentage des revenus d'un concurrent. La méthode du tarif mensuel fixe serait

la plus simple à administrer, mais elle pourrait ne pas refléter de façon exacte les besoins en contributions réelles étant donné que le trafic concurrentiel par ligne peut varier avec le temps selon le type de service, selon le concurrent et selon la maturité de celui-ci. Des frais par minute exigeraient de mettre au point une méthode fiable de mesure du trafic et d'en arriver à un chiffre acceptable pour le montant de cette contribution, montant implicitement intégrée aux tarifs des compagnies de téléphone. Les deux premiers mécanismes pourraient également donner lieu à des incitatifs pour éviter complètement le réseau local des compagnies de téléphone et éviter ainsi tous frais de contribution. Le troisième mécanisme, qui veut que les paiements de contribution soient basés sur les revenus d'un concurrent, éliminerait la menace de l'évitement mais cela pourrait être compliqué à administrer dans les cas où les concurrents offrent une gamme de services qu'il faudrait ventiler pour déterminer la contribution imputable à chacun ou dans les cas où il y a d'autres sources de revenus.

Les frais de contribution pourraient être établis au niveau même qui est imputé pour les compagnies de téléphone ou, encore, ils pourraient comprendre un certain rabais. La question de rabais du niveau de contribution provient, comme on l'a indiqué précédemment, du fait que des nouveaux entrants auraient besoin d'une réduction de prix pour entrer sur le marché interurbain et y survivre, du moins au cours de la période de mise en marche. Si l'organisme de réglementation permettait une telle réduction de prix, des frais de contribution réduits pour les télécommunicateurs sont un moyen possible pour sa mise en oeuvre. Si ce rabais était permis, le déficit de contribution qui en résulterait pourrait entraîner une augmentation des tarifs locaux.

<u>L'obligation de fournir le service</u>

Si la concurrence était autorisée, se pose alors la question de savoir si l'obligation de fournir le service actuellement imposée aux compagnies de téléphone doit disparaître, si elle doit être partagée ou encore si elle doit continuer d'être assumée par le télécommunicateur de service initial, habituellement le télécommunicateur dominant, celui-ci devenant un fournisseur de services de dernier recours. En régime concurrentiel, les abonnés se trouvant dans des régions à faible densité et où les coûts des installations sont élevés pourraient faire face à une hausse possible des tarifs interurbains par rapport aux tarifs des abonnés résidant le long des routes intéressantes pour les concurrents. Les organismes de réglementation pourraient choisir d'obliger les compagnies de téléphone à continuer de fournir le service. Celles-ci pourraient être dédommagées pour cette obligation par voie de paiements de contribution supplémentaires de la part des concurrents. De plus, les organismes de réglementation pourraient obliger les concurrents exploitant leurs propres installations à fournir un service téléphonique universel en déployant leur réseau ou encore par voie de revente. Cependant, l'obligation de déployer un réseau sur des routes à faible densité pourrait être perçue comme un investissement inefficient ou un dédoublement des installations des concurrents.

Mécanismes de prix permettant de minimiser les répercussions négatives pour les abonnés

Un certain nombre de mécanismes de fixation des prix et de mécanismes connexes pourraient être utilisés pour minimiser les répercussions négatives d'une augmentation des frais du service téléphonique local. Le Groupe de travail en a étudié trois : les services de la ligne vitale, les services économiques et le service local tarifé à l'utilisation. On entend par services de la ligne vitale un service grâce auquel les ménages à faibles revenus peuvent disposer d'un service téléphonique de base à tarif réduit. Pour y arriver, on utilise des mécanismes de subvention qui pourraient inclure une contribution pour les frais d'installation et autres frais similaires qui semblent causer aux ménages à faibles revenus plus de difficultés que les frais mensuels courants. S'ils peuvent être implantés au Canada, les services de la ligne vitale pourraient être financés (indirectement) par les abonnés des compagnies de téléphone et les télécommunicateurs concurrents. Par ailleurs, les gouvernements pourraient rembourser aux compagnies de téléphone les coûts de prestation des services de la ligne vitale de sorte que l'ensemble des contribuables paierait pour leur financement.

La disponibilité de services économiques à faibles coûts comme les services de lignes à plusieurs abonnés pourraient permettre à ceux qui sont touchés par des tarifs locaux plus élevés de conserver cette forme de service de base. Selon le CRTC, le service de résidence de ligne à deux abonnés est un service économique dont le but est de promouvoir l'universalité de l'accès. Toutefois, les organismes de réglementation provinciaux considèrent généralement ce service comme un service de qualité inférieure et estiment que les coûts pour l'offrir, dans un contexte où les services de ligne individuelle prédominent, excèdent les coûts associés à ces derniers. D'après eux, le service de ligne à deux abonnés n'est pas, comme tel, un service économique, à toutes fins pratiques.

Le service local tarifé à l'utilisation fournit une option en vertu de laquelle les abonnés sont facturés pour chaque appel local et peuvent contrôler le nombre d'appels qu'ils jugent essentiel et qu'ils peuvent se permettre. Bien que le service local tarifé à l'utilisation puisse s'avérer un mécanisme efficace pour atténuer les répercussions néfastes des hausses des tarifs locaux fixes sur les abonnés qui font une utilisation modérée du service, les coûts d'installation et les réactions possiblement négatives du public risquent d'en rendre peu probable l'adoption au Canada dans un avenir prévisible.

Nouveaux entrants potentiels dans un marché concurrentiel

Le marché des services téléphoniques interurbains publics compte deux types de nouveaux entrants possibles : les télécommunicateurs exploitant leurs propres installations et les revendeurs. Dans le premier cas, les nouveaux entrants feraient concurrence en utilisant leurs propres installations; dans le deuxième, les nouveaux entrants revendraient les installations et services des télécommunicateurs en place de même que ceux des nouveaux entrants exploitant leurs propres installations. En réalité, la distinction entre ces deux catégories ne serait pas aussi claire. On pourrait s'attendre à ce que de nombreux entrants offrent une combinaison de services en exploitant leurs propres installations, d'une part, et

par voie de revente, d'autre part. On suppose que tous les nouveaux entrants utiliseraient les installations locales des compagnies de téléphone pour permettre aux abonnés d'avoir accès à leurs services interurbains.

L'on retrouve parmi les entrants possibles exploitant leurs propres installations, les télécommunicateurs en place comme la B.C. Rail, Cantel, le CNCP, Télésat Canada et, dans une certaine mesure, les fournisseurs de services radio cellulaire affiliés aux compagnie de téléphone. Parmi les autres entrants potentiels de ce même type, il faut citer les nouveaux télécommunicateurs prêts à investir pour se doter de leurs propres systèmes numériques de micro-ondes ou de fibres optiques, en particulier sur les routes intervilles à forte densité. Dans une classe différente de nouveaux entrants exploitant leurs propres installations, l'on pourrait compter les compagnies de câblodistribution et d'hydroélectricité ou d'autres compagnies qui disposent déjà d'installations de réseaux de micro-ondes intervilles privées importantes. Comme aux États-Unis, il est possible que l'on voit apparaître des fournisseurs de services régionaux en gros (c'est-à-dire, des télécommunicateurs de télécommunicateurs) qui loueraient des installations en gros aux télécommunicateurs interurbains. Les compagnies de câblodistribution, d'hydroélectricité et autres, ainsi que Télésat Canada, pourraient, par exemple, décider de fonctionner de cette façon.

La revente est un phénomène relativement nouveau au Canada, et elle se limite actuelle à la revente d'installations et de services de télécommunicateurs réglementés par le gouvernement fédéral pour offrir des services autres que le SICT/WATS. Il n'est donc pas possible de prévoir les entrants possibles au niveau de la revente dans le marché canadien du SICT/WATS. L'expérience avec la concurrence, aux États-Unis et au Japon, laisse supposer que la structure de tarification étant ce qu'elle est actuellement, le marché des services interurbains attirerait un grand nombre de revendeurs.

Scénarios particuliers de concurrence pour le Canada

Les répercussions de la concurrence seraient fonction, en partie, de la façon dont on permettrait à la concurrence de se produire. Les paragraphes suivants présentent un certain nombre de scénarios de concurrence se concentrant sur les questions géographiques et juridictionnelles ainsi que sur la structure de l'industrie et susceptibles de définir le caractère particulier de la concurrence au Canada.

Trois scénarios sont étudiés sur cette base. Le premier scénario, appelé concurrence "extraprovinciale/extraterritoriale", comprendrait l'introduction uniforme de la concurrence dans l'ensemble du Canada pour les catégories extra-provinciales/extraterritoriales seulement du service téléphonique interurbain public. Cela veut dire que la concurrence interviendrait uniquement dans le trafic interurbain actuel intercompagnies, Canada-É.-U. et Canada-outre-mer, et non pas, dans un premier temps, dans le trafic interurbain intraprovincial/intra-territorial. Dans le cas des compagnies comme Bell Canada et Norouestel, dont les zones de desserte couvrent plus d'une province ou d'un territoire, la concurrence serait introduite sur une base extracompagnie. En théorie, on pourrait songer à introduire la concurrence sur une base extraprovinciale/extraterritoriale pour

ces compagnies, mais ce mécanisme soulèverait un certain nombre de problèmes difficiles d'établissement du prix de revient ainsi que d'organisation. Le deuxième scénario comprend la possibilité que des juridictions particulières puissent, en outre, décider d'introduire la concurrence sur une base intraprovinciale/intra-territoriale ou intracompagnie. Il postule l'introduction de cette concurrence sur une base interrégionale où la définition de région serait basée sur le concept de la LATA américaine. Le trafic interurbain entre les principaux centres de population serait concurrentiel dans ce scénario, tandis que tous les services locaux et intrarégionaux continueraient d'être offerts en régime monopolistique par les compagnies de téléphone.

Pour ce scénario comme pour le scénario précédent, il existe deux moyens d'autoriser les entreprises concurrentes à accéder aux abonnés des compagnies de téléphone. Le premier exigerait qu'un concurrent établisse un point d'occupation (c'est-à-dire, un point d'accès au réseau interurbain) dans chaque centre local où il a l'intention de faire de la concurrence : de cette façon ses abonnés pourraient utiliser le réseau local de la compagnie de téléphone pour bénéficier du réseau interurbain du concurrent. L'on pourrait par ailleurs adopter un mécanisme semblable à celui qui est adopté pour la concurrence interLATA aux États-Unis. Le concurrent serait obligé d'établir un ou plusieurs points d'occupation à l'intérieur d'une province, d'un territoire ou d'une région, et la compagnie de téléphone serait tenue d'acheminer le trafic au concurrent dans des centres locaux dans toutes les zones où il a acheté un accès. Ainsi, si l'accès est acheté dans tous les centres locaux, les abonnés de la compagnie de téléphone dans toute sa zone de desserte pourraient se prévaloir des services du concurrent. La différence clé entre les deux mécanismes réside dans la possibilité d'une couverture plus rapide et étendue par un concurrent. Pour ce qui est du premier, les services interurbains du concurrent ne seraient probablement offerts, au début, que dans les secteurs d'appels locaux des principaux centres de population. En vertu du second, un concurrent pourrait choisir d'offrir le service aux abonnés sur une base plus large dès le début.

Le troisième scénario présume que les diverses catégories de marché de service téléphonique interurbain public seraient assujetties à la concurrence. Il suppose également que les concurrents établiraient des points d'occupation individuels dans des centres locaux choisis du Canada. L'accès des télécommunicateurs serait assuré sur une base de commutation locale telle que décrite dans le premier arrangement d'accès étudié ci-dessus. L'approche la plus réaliste pour un concurrent consisterait à offrir progressivement un service local de départ en commençant par les grands centres de population et en passant, petit à petit, aux centres moins populeux. Les télécommunicateurs exploitant leurs propres installations pourraient étendre leurs appels d'arrivée au-delà de l'étendue de leurs propres installations par voie de revente des services interurbains de compagnies de téléphone ou d'autres concurrents. Le Groupe de travail s'est servi de ce scénario pour modéliser les effets financiers de la concurrence interurbaine au Canada.

D'autres scénarios ont envisagé la situation qui pourrait survenir si les plus importants télécommunicateurs exploitant leurs propres installations concentraient la concurrence sur les routes à forte densité, et si le Canada devait prendre une attitude permissive à l'égard de la concurrence internationale. La concurrence sur les routes à forte densité exercerait des pressions pour faire cesser la pratique de tarifs moyens pour toutes les routes. Si une approche permissive à la concurrence internationale était adoptée, les télécommunicateurs canadiens pourraient devenir vulnérables à l'utilisation d'installations américaines pour une grande partie du trafic interurbain canadien.

6.0 Analyse financière de la concurrence dans la prestation du service téléphonique interurbain public

Une analyse des répercussions financières de la concurrence interurbaine au Canada visait à déterminer les variations des tarifs locaux mensuels résultant de l'entrée de la concurrence et le montant des paiements de contribution qu'un concurrent aurait les moyens de payer.

Le modèle de la simulation financière

L'analyse a été faite au moyen d'un modèle de simulation financière élaboré pour le Groupe de travail. Le modèle a mis l'accent sur le troisième des scénarios de concurrence basés sur des paramètres géographiques décrits précédemment, c'est-à-dire qu'on a supposé que la concurrence était permise dans toutes les catégories du service téléphonique interurbain public à compter de 1989. On a également présumé que les concurrents avaient établi des points d'occupation, en particulier dans des centres locaux particuliers, en commençant par les grands centres de population et en passant progressivement aux centres moins populeux. Le modèle a simulé les effets de la concurrence sur 17 compagnies de téléphone importantes --les membres de Telecom Canada et 8 compagnies de téléphone indépendantes -- à travers le pays. On a considéré aussi bien les concurrents exploitant leurs propres installations que les revendeurs. Le modèle a servi à déterminer les effets de la modification d'un certain nombre de paramètres dont les éléments clés étaient les zones géographiques où la concurrence serait permise (à l'intérieur et entre les zones de desserte de Bell Canada et de la B.C. Tel seulement, à l'intérieur et entre les zones de desserte des membres de Telecom Canada et sur une base pancanadienne), les rabais de prix des concurrents (10 ou 25 %) et la part du marché de base perdue par les compagnies de téléphone (10 ou 20 % du trafic interurbain). Le processus de modélisation avait, notamment pour objectif, l'établissement des paiements de contribution que les concurrents pourraient se permettre de verser tout en demeurant financièrement viables. En général, on a constaté qu'un rabais du niveau de contribution serait nécessaire et que des répercussions négatives s'ensuivraient sur les revenus des compagnies de téléphone.

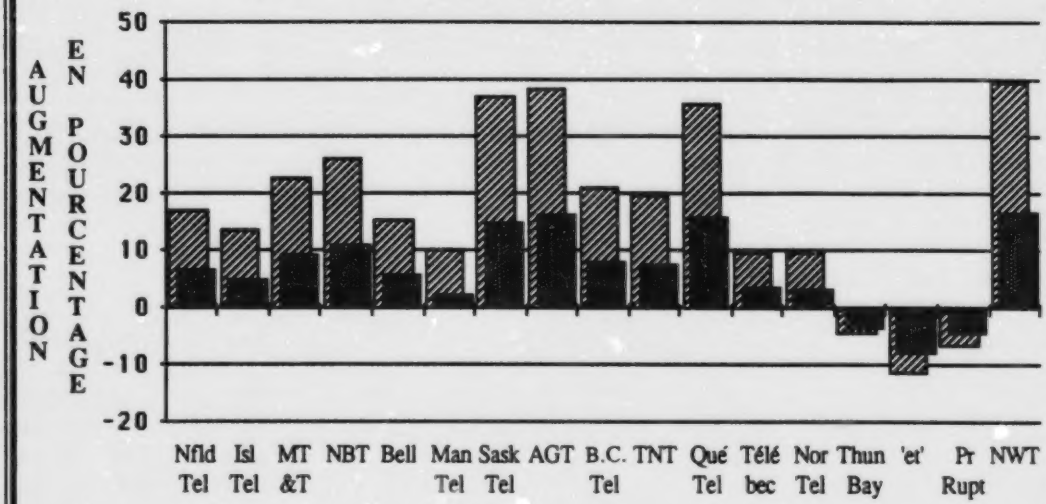
Répercussions financières de la concurrence

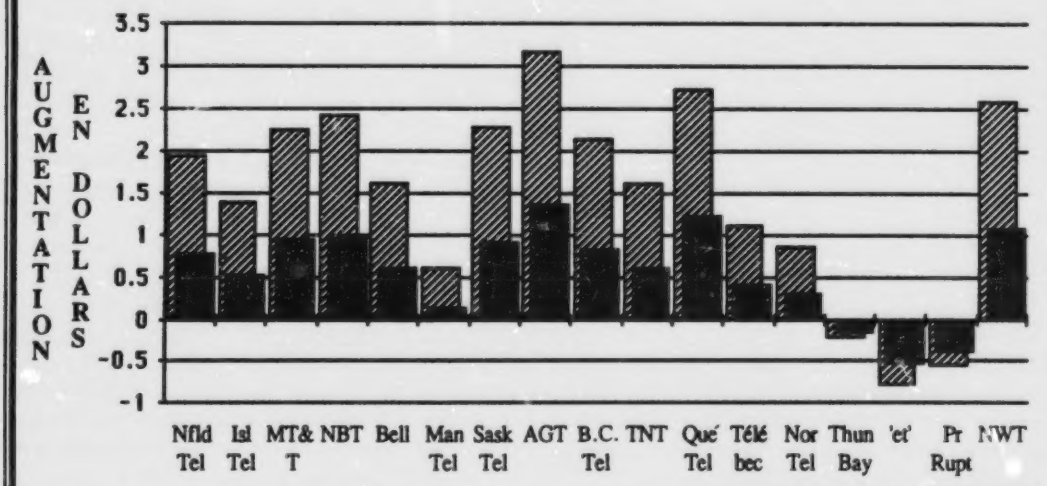
Les graphiques S-5 et S-6 illustrent les effets estimés de la concurrence par des entreprises exploitant leurs propres installations, sur les tarifs mensuels locaux des services de résidence et d'affaires respectivement, en 1995, lorsque la concur-

Graphique S-5

Effets estimatifs de la concurrence des télécommunicateurs exploitant leurs propres installations sur les tarifs locaux, 1995*

Variations tarifaires du service de résidence





* Les variations tarifaires s'appliquent à 1995 et sont exprimées en dollars de 1995, selon les hypothèses qu'il y a concurrence à l'échelle nationale et que les variations de pourcentage sont les mêmes pour les tarifs du service d'affaires que pour ceux du service de résidence.

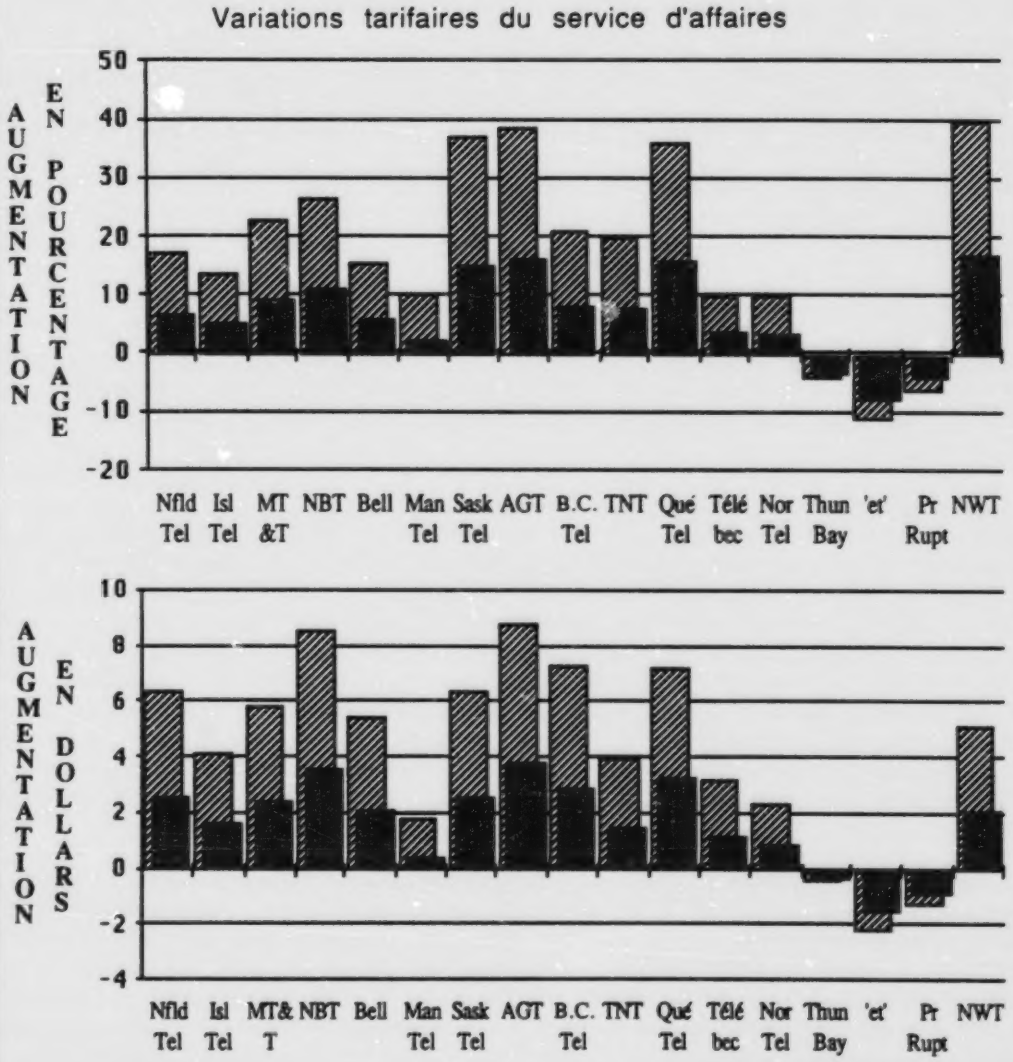
SOURCE: Peat Marwick, étude commandée par le Groupe de travail.

Variations des tarifs locaux intervenant dans les cas suivants :

- rabais de 25 % sur les prix/ 20 % de la part du marché
- rabais de 10 % sur les prix/ 10 % de la part du marché

Graphique S-6

Effets estimatifs de la concurrence des télécommunicateurs exploitant leurs propres installations sur les tarifs locaux, 1995*



* Les variations tarifaires s'appliquent à 1995 et sont exprimées en dollars de 1995, selon les hypothèses qu'il y a concurrence à l'échelle nationale et que les variations de pourcentage sont les mêmes pour les tarifs du service d'affaires que pour ceux du service de résidence.

SOURCE: Peat Marwick, étude commandée par le Groupe de travail.

Variations des tarifs locaux intervenant dans les cas suivants :

- rabais de 25 % sur les prix/ 20 % de la part du marché
- rabais de 10 % sur les prix/ 10 % de la part du marché

rence survient dans tout le Canada. Dans le modèle, la concurrenceentraîne des répercussions financières sur les compagnies de téléphone qui sont supposées être compensées par des variations des tarifs locaux. Dans ces graphiques, les variations des tarifs locaux devraient s'appliquer sur une base procentuelle égale aux tarifs des services de résidence et d'affaires.

Parmi les compagnies membres de Telecom Canada, on estime qu'AGT connaîtrait les hausses de tarifs locaux les plus marquées et Manitoba Tel les moins marquées. Par exemple, dans le scénario où la part du marché perdue au concurrent est de 20 % et le rabais consenti de 25 %, les tarifs résidentiels d'AGT en 1995 augmenteraient de 3,18 $ par mois (en dollars de 1995) et les tarifs du service d'affaires de 8,82 $ par mois (près de 40 %), tandis que les tarifs de Manitoba Tel ne grimperaient que de 0,63 $ et de 1,85 $ par mois, respectivement (10 %). Parmi les compagnies de téléphone indépendantes, les résultats du modèle permettent de penser que, pour Norouestel subirait les pires répercussions parce qu'elle perdrait beaucoup de revenus de contribution. En fait, sur une base procentuelle et non en dollars, Norouestel, de toutes les compagnies de téléphone, devrait connaître les plus fortes augmentations du tarif local. Les graphiques montrent également que les compagnies de téléphone indépendantes municipales verraient leurs tarifs locaux diminuer par suite de la concurrence, et ce, parce que les paiements de contribution versés directement aux compagnies de téléphone excéderaient les revenus reçus d'autres compagnies de téléphone en vertu des actuelles méthodes de partage des revenus.

Dans le modèle, les paiements de contribution ont été calculés de manière à assurer que les concurrents soient financièrement rentables au cours des dix premières années de leur exploitation. Pour le scénario pancanadien, avec un rabais de 25 % et une part de marché du concurrent de 20 %, le concurrent obtiendrait, de la septième à la quinzième année, un taux de rendement de plus en plus élevé (estimé à 33 % la quinzième année). Ce scénario suggère que, pendant ces années, le concurrent pourrait se permettre de faire des paiements de contribution plus élevés. De plus, le concurrent serait en mesure de livrer concurrence aux compagnies de téléphone à des rabais moindres. Ces deux développements auraient pour effet de réduire les majorations des tarifs locaux attribuables à l'introduction de la concurrence interurbaine après la dixième année.

Les résultats du modèle ont servi à calculer les changements possibles dans les factures mensuelles des abonnés qui passent au service d'un concurrent. Cette analyse des factures s'applique au scénario pancanadien des concurrents exploitant leurs propres installations avec un rabais de 25 % et une part de marché du concurrent de 20 %. Comme on le sous-entend ci-dessus, tous les abonnés verraient leur facture mensuelle augmenter (sauf les abonnés de certaines compagnies de téléphone indépendantes) à la suite de la hausse des tarifs locaux. Seul un petit nombre d'abonnés seraient en mesure de compenser ces majorations mensuelles en passant au service interurbain meilleur marché du concurrent. Par exemple, dans ce scénario, on estime qu'entre 8 % et 13 % des abonnés urbains du service de résidence de Bell Canada et, entre 5 % et 9,6 % de ses abonnés importants au service d'affaires, verraient leur facture mensuelle globale diminuer.

Il faut noter que cette analyse de facturation ne s'applique qu'au scénario décrit ci-devant. D'autres scénarios produiraient des résultats différents. Par exemple, des changements de productivité associés à l'introduction de la concurrence interurbaine auraient pour effet soit de hausser soit de réduire ces répercussions sur les tarifs locaux entraînant des changements consécutifs aux résultats de l'analyse de facturation.

Le modèle a produit des résultats intéressants par rapport aux diverses façons dont la concurrence pourrait survenir. Par exemple, les effets sur les tarifs locaux de la concurrence dans les zones de desserte de Bell Canada et de la B.C. Tel seulement ne se limitent pas à ces deux compagnies. En effet, la perte de revenus de contribution qui surviendrait aurait des répercussions financières négatives sur d'autres membres de Telecom Canada, étant donné qu'ils passeraient par l'intermédiaire du Plan de partage des revenus de Telecom Canada. De plus, la concurrence par des revendeurs entraînerait des augmentations plus élevées des tarifs locaux que la concurrence par des entreprises exploitant leurs propres installations à cause de la structure de coût présumément plus élevée des concurrents par voie de revente. La concurrence combinée des entreprises exploitant leurs propres installations et de revendeurs produirait une impact intermédiaire sur les tarifs locaux. Selon le modèle, le rééquilibrage des tarifs, comprenant un rajustement partiel des tarifs interurbains et locaux en 1989 avant l'introduction de la concurrence, n'aurait pratiquement aucun effet sur la viabilité financière des concurrents, à la condition qu'on leur permette de faire des paiements de contribution plus bas pour tenir compte de la contribution plus faible comprise dans les tarifs partiellement rééquilibrés des compagnies de téléphone. Les répercussions sur les tarifs locaux dans ce régime seraient pratiquement les mêmes que ceux décrits précédemment.

Les résultats de l'exercice de modélisation révèlent enfin qu'au cours de la période de mise en marche, il faudrait accorder un rabais important des paiements de contribution aux concurrents pour garantir leur viabilité financière. Avec une part de marché du concurrent de 20 %, les coûts différentiels du concurrent et des compagnies de téléphone ont été estimés être à peu près les mêmes, et le concurrent pourrait alors verser un paiement de contribution plus important qu'initialement, tout en maintenant le même rabais. Aussi longtemps que le concurrent aura maintenu des prix escomptés, un rabais de contribution sera requis.

GROUPE DE TRAVAIL FÉDÉRAL–PROVINCIAL–

TERRITORIAL SUR LES TÉLÉCOMMUNICATIONS

La concurrence dans le service téléphonique interurbain public au Canada

Rapport

1.0 INTRODUCTION

Ce rapport fait état des résultats de l'étude consacrée aux facteurs qui seraient liés à l'instauration de la concurrence dans la prestation du service téléphonique interurbain public au Canada. À l'occasion de leur conférence qui a eu lieu à Edmonton les 2 et 3 avril 1987, les ministres responsables des Communications ont convenu d'examiner l'opportunité d'ouvrir à la concurrence le service téléphonique interurbain public au Canada. Ils ont également convenu de demander à un Groupe de travail, composé de représentants des organismes de réglementation des télécommunications aux niveaux fédéral, provincial et territorial, et, dans certains cas, de représentants gouvernementaux, d'entreprendre une enquête sur les données empiriques nécessaires à l'élaboration d'une politique publique judicieuse, avant qu'une décision ne soit rendue en matière de réglementation. En conséquence, le rapport contient des renseignements et analyses susceptibles de permettre aux ministres de formuler une politique relative à la concurrence dans la prestation du service téléphonique interurbain public.

1.1 Mandat

La tâche confiée au Groupe de travail est décrite dans un document élaboré par les ministres. Ce document précise le cadre de l'étude, en décrit le mandat et souligne certains points de procédure.[1] Voici un extrait de ce document :

> En 1986, à la demande du ministre fédéral et des ministres provinciaux des Communications, une équipe composée de représentants du CRTC et des organismes provinciaux de réglementation a mené une enquête majeure sur la tarification des télécommunications et l'universalité du service téléphonique à des prix abordables. Les conclusions de cette enquête ont été présentées aux ministres en septembre 1986, et diffusées au public pour commentaires à une date ultérieure de la même année. Le rapport soumis par le Groupe de travail constitue la première étude détaillée menée au Canada sur la tarification, et a été un important exemple des avantages pouvant découler de la coopération entre les gouvernements et les organismes de réglementation fédéral et provinciaux.
>
> À l'occasion de leur conférence qui a eu lieu à Edmonton les 2 et 3 avril 1987, les ministres des Communications ont étudié des propositions relatives à une politique nationale sur la concurrence et l'interconnexion de nature à tenir compte des disparités régionales et à permettre la prestation d'une vaste gamme de matériel et de services de télécommunications en régime concurrentiel, dans toutes les juridictions du Canada. À titre de partie intégrante de ce cadre de politique, les ministres ont convenu d'examiner l'opportunité d'autoriser la concurrence sur le marché de la prestation du service interurbain public. Étant

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[1] Le 10 juin 1987, le ministère fédéral des Communications a écrit au Président du CRTC pour lui demander d'organiser la première réunion du Groupe de travail et d'inclure le mandat.

donné les aspects complexes qui entourent les questions de la tarification des télécommunications et de la concurrence, et afin de recueillir les preuves empiriques nécessaires en vue de l'élaboration d'une politique publique judicieuse, les ministres des Communications ont convenu de demander aux représentants fédéral, provinciaux et territoriaux d'entreprendre une enquête avant toute prise de décision réglementaire concernant la question, et de faire part de leurs conclusions aux Ministres...

L'étude projetée sera menée conformément au mandat qui suit.

Le mandat de l'étude

1. Déterminer et quantifier la source des revenus perçus par les compagnies de téléphone au titre du service interurbain (SICT/WATS) par exemple interprovincial, intraprovincial, membre adjacent, Canada–États–Unis, Canada–outre–mer;

2. Examiner les facteurs techniques, opérationnels et économiques, comme les économies d'échelle et/ou de diversification, l'élasticité des prix et de la demande, autant de facteurs qui peuvent justifier la prestation du SICT/WATS en régime monopolistique ou concurrentiel;

3. Étudier les documents disponibles afin de décrire la nature et l'étendue de la concurrence du SICT/WATS dans les É.–U., le Japon et le R.–U., et son impact sur les tarifs, la qualité et la disponibilité des services de télécommunications résidentiels et d'affaires dans ce pays;

4. Élaborer à l'égard du SICT/WATS des modèles de concurrence susceptibles d'être retenus pour le Canada, allant du partage des marchés réglementés jusqu'à la concurrence à la grandeur du marché intégral, y compris les critères applicables à l'entrée sur le marché et au retrait du marché;

5. Dans la perspective du maintien de l'accès universel au service téléphonique à des tarifs abordables :

   a) déterminer et analyser pour chaque modèle de concurrence indiqué ci–dessus, l'ampleur des répercussions qu'il pourra avoir à l'échelle nationale et régionale, sur

      - les tarifs du service local de base d'affaires et résidentiels;

- les tarifs des services SICT/WATS à courte et à grande distance

- et les tarifs des services de télécommunications d'affaires.

b) analyser les relations entre la concurrence sur le marché du SICT et du WATS et la tarification des services téléphoniques, ce qui comprend les effets sur les principes de tarification selon la valeur des services, l'établissement de tarifs interurbains moyens à l'échelle du système et la prestation du service dans les régions rurales et éloignées;

6. Analyser les répercussions possibles de la concurrence sur le marché du SICT/WATS en ce qui concerne les coûts et les avantages pour le Canada, sur le plan économique et industriel et du point de vue de la réponse aux besoins des utilisateurs;

7. Élaborer les modèles de réglementation de rechange qui pourraient être appliqués aux activités des sociétés exploitantes de télécommunications établies et des nouveaux concurrents, en particulier pour ce qui est de l'obligation de fournir le service, du partage du marché, des services minimaux à offrir, de la fourniture des installations aux sociétés exploitantes concurrentes et aux revendeurs, et des mesures à prendre pour assurer une concurrence juste et équitable sur le marché du SICT/WATS;

8. Évaluer le coût de la transformation du réseau téléphonique actuel, de façon à garantir aux concurrents l'accès à la circonscription locale à des conditions justes et équitables, ce qui comprend le coût de "l'égalité d'accès" à tous les compétiteurs;

9. Examiner diverses méthodes de calcul des frais d'accès à exiger des sociétés exploitantes concurrentielles et des revendeurs, pour de l'utilisation des installations des réseaux locaux et des installations de SICT/WATS;

10. Déterminer dans quelle mesure chaque compagnie (incluant les compagnies de téléphone indépendantes) et leurs abonnés seront touchés directement ou indirectement par l'entrée en scène de la concurrence le SICT/WATS dans les autres juridictions;

11. Déterminer les catégories d'usagers qui bénéficieront de l'instauration de la concurrence du SICT/WATS;

12. Identifier les classes d'usagers auxquelles l'introduction de la concurrence du SICT/WATS serait préjudiciable, et identifier des mécanismes de de natufe à minimiser les incidences de cette décision sur les usagers en question.

L'étude visera à identifier et à évaluer ces questions des points de vue de leur incidence à l'intérieur de certaines compagnies ainsi que de leurs répercussions entre les compagnies et les différentes juridictions. Sous ce dernier rapport, une attention spéciale sera accordée aux rapports entre le processus de règlement à utiliser dans l'industrie du téléphone pour le partage des revenus provenant du service téléphonique interurbain et l'introduction de la concurrence sur le marché du service SICT/SIP. Ce rapport sera examiné tant du point de vue des ententes de partage qui seraient conclues entre les compagnies membres de Telecom Canada que dans la perspective de celles qui existent entre les membres de Telecom Canada et les compagnies de téléphone indépendantes.

Pour mener cet examen, le Groupe de travail devrait recueillir une gamme de données ayant trait aux questions ci-dessus et devrait tirer parti des études existantes.

1.2 Organisation et fonctionnement du Groupe de travail

Conformément à son mandat, le Groupe de travail a examiné l'instauration de la concurrence dans le service téléphonique interurbain public comme l'une des options pour l'avenir des télécommunications au Canada. Ce groupe comprend des représentants du Conseil de la radiodiffusion et des télécommunications canadiennes (CRTC) et de toutes les provinces et territoires. Il est présidé par le vice-président du CRTC, Louis R. (Bud) Sherman. On trouvera à l'annexe A la liste des participants au Groupe de travail.

Dès le début de leurs travaux, les membres du Groupe de travail se sont divisés en quatre comités plus un comité d'étude, appuyés par le personnel de leurs organisations respectives, dans le but de recueillir et d'analyser des données sur les aspects suivants du mandat : scénarios de la réglementation et de la concurrence et mécanismes de tarification visant à atténuer l'impact pour les abonnés; analyse financière et analyse des tarifs; structure de l'industrie et impact économique; expériences vécues dans d'autres pays; et les coûts d'accès pour les télécommunicateurs. Certains renseignements spécifiques ont été obtenus par le biais d'une série de questions soumises aux compagnies de téléphone canadiennes. Dans certains cas, des experts-conseils ont été engagés pour aider à rassembler et analyser divers renseignements. Les rapports des experts-conseils font partie intégrante des documents transmis aux ministres par le Groupe de travail. Il y a lieu de noter que les opinions exprimées dans ces rapports sont celles des experts-conseils et qu'elles ne sont pas nécessairement partagées par les membres du Groupe de travail.

Les membres du Groupe de travail ont restreint leurs activités à la collecte et à l'étude des données, et à la réalisation d'analyses objectives portant sur la concurrence en matière de service téléphonique interurbain public. Les participants ont jugé que leur rôle fondamental était de colliger des renseignements et de les analyser, permettant ainsi d'aider les ministres à établir les politiques nécessaires. Le Groupe de travail n'a ni sollicité ni retenu les opinions du grand public, celui-ci pouvant avoir un intérêt vis-à-vis la question de la

concurrence dans le service téléphonique interurbain. Il s'est donc attaché à recueillir et à analyser les renseignements obtenus, conformément à ce qui est indiqué à la section précédente. En conséquence, certaines données proviennent d'une seule source et n'ont donc été ni vérifiées ni contestées par d'autres parties intéressées. On a jugé que la ligne de conduite adoptée ne nuisait pas à l'exercice du pouvoir discrétionnaire quasi judiciaire des organismes de réglementation parties au Groupe de travail. Le Groupe de travail s'est efforcé de fournir aux gouvernements une base commune de données leur permettant d'examiner et d'établir leurs politiques relatives à concurrence dans la prestation du service téléphonique interurbain public.

2.0 Marché canadien des télécommunications

Ce chapitre comporte un aperçu des caractéristiques clés du marché canadien des télécommunications. Il vise à fournir des données de base, par rapport auxquelles il sera possible d'évaluer le débat relatif à la concurrence dans la prestation du service téléphonique interurbain public au Canada. Les sections qui suivent font le point sur la structure de l'industrie canadienne des télécommunications, les services fournis, les revenus provenant du service téléphonique interurbain, le climat de la réglementation et des politiques et les expériences antérieures en matière de concurrence.

2.1 Structure de l'industrie canadienne des télécommunications

Au Canada, les services de télécommunications sont offerts par une combinaison de sociétés privées, gouvernementales et mixtes, ayant des mandats d'exploitation variables : en effet, certaines sont appelées à répondre aux besoins d'un seul secteur local, tandis que d'autres desservent l'ensemble du pays. Voici décrits brièvement les intervenants essentiels de l'industrie des télécommunications.

A. Telecom Canada

Telecom Canada est une association non constituée en société, composée des plus grandes compagnies de téléphone de chaque province et de Télésat Canada, transporteur canadien par satellite. Les dix compagnies membres de Telecom Canada sont énumérées au tableau 2-1, ainsi que leur type de propriété et leur zone de desserte. La zone de desserte de chaque compagnie de téléphone représente généralement une province (sauf pour Bell Canada qui fait des affaires dans deux provinces et un territoire). Telecom Canada coordonne l'exploitation du réseau national de télécommunications de ses membres, commercialise les produits et services à l'échelle nationale et répartit les revenus communs provenant de la prestation de ces services. Les membres de Telecom Canada fournissent un éventail d'installations pour la transmission et la commutation du trafic local et interurbain, y compris deux voies d'acheminement transcanadiennes à relais par micro-ondes. Le trafic des télécommunications est en outre transporté grâce à des réseaux de câbles coaxiaux et de fibres optiques (d'ici 1990, un système national de fibres optiques devrait être pleinement opérationnel) et aux satellites et stations terrestres de Télésat Canada.

Télésat Canada est devenu membre de Telecom Canada en 1977, afin de participer aux décisions prises en matière de planification, d'investissement et ayant un impact sur le développement des réseaux canadiens de télécommunications, et afin de promouvoir l'intégration complète des installations de satellites et des systèmes terrestres exploités par les autres membres. En vertu de l'entente initiale faisant de Télésat un membre de Telecom Canada, sa viabilité financière est assurée de façon durable par les paiements de transfert des autres membres de Telecom Canada. Au début, les services de

TABLEAU 2-1

Compagnies membres de Telecom Canada*

COMPAGNIE	TYPE DE PROPRIÉTÉ	ZONE DE DESSERTE
Newfoundland Telephone Co., Ltd. (Nfld Tel)	Appartenant à des investisseurs	Une partie de Terre-Neuve
Island Telephone Co., Ltd. (Island Tel)	Appartenant à des investisseurs	Ile-du-Prince-Edouard
Maritime Telegraph and Telephone Co., Ltd. (MT&T)	Appartenant à des investisseurs	Nouvelle-Écosse
The New Brunswick Telephone Co., Ltd. (NBTel)	Appartenant à des investisseurs	Nouveau-Brunswick
Bell Canada	Appartenant à des investisseurs	Secteurs du Québec et de l'Ontario et partie Est des Territoires du Nord-Ouest
Manitoba Telephone System (Manitoba Tel)	Société d'État provinciale	Manitoba
Saskatchewan Telecommunications (SaskTel)	Société d'État provinciale	Saskatchewan
Alberta Government Telephones (AGT)	Société d'État provinciale	Alberta (sauf Edmonton)
Compagnie de téléphone de la Colombie-Britannique (B.C. Tel)	Appartenant à des investisseurs	Grande partie de la Colombie-Britannique
Télésat Canada	Appartenant au gouvernement du Canada et aux principales compagnies de téléphone	Canada

* De plus, Québec-Téléphone est un membre associé.

Télésat étaient commercialisés par Telecom Canada, qui jouait donc ainsi un double rôle de télécommunicateur. Cependant, Télésat a récemment demandé et obtenu l'autorisation de commercialiser directement ses services auprès des utilisateurs, dans l'ensemble du pays. Du même coup, les paiements de transfert ont été limités à un maximum de 20 millions de dollars pour 1985, 1986 et 1987, avant de prendre fin à cette date. Télésat se retrouve donc en situation de concurrence réelle et/ou potentielle, au sein d'un groupe de télécommunicateurs par ailleurs essentiellement non concurrents.

B. Compagnies de téléphone indépendantes

En dehors des membres de Telecom Canada, il y a près d'une centaine de sociétés exploitantes de services téléphoniques au Canada. Le tableau 2-2 présente les plus importantes d'entre elles ainsi que les provinces et territoires respectifs qu'elles desservent. Les autres compagnies de téléphone font affaire principalement au Québec et en Ontario, sous un régime de propriété provinciale, municipale, coopérative ou privée.

C. Autres entreprises de télécommunications

Téléglobe Canada

Téléglobe Canada, entreprise chargée du trafic outre-mer ayant récemment été privatisée, fournit des installations et assure des services de télécommunications entre le Canada et des pays d'outre-mer. La vente de Téléglobe à Mémotec Data Inc. par le gouvernement fédéral, en avril 1987, était assortie d'une politique en vertu de laquelle le monopole de Téléglobe sur la transmission du trafic outre-mer était effectivement prolongé d'une période minimale de cinq ans.[2]

Téléglobe assure le trafic outre-mer des télécommunications par le biais de ses stations de transit internationales de Montréal, Toronto et Vancouver. Téléglobe exploite des câbles sous-marins qu'elle possède en copropriété avec des télécommunicateurs internationaux d'autres pays, ainsi que des installations de satellites qu'elle loue à Intelsat. Le trafic en provenance et à destination de points situés au Canada est généralement assuré par les télécommunicateurs canadiens jusqu'à un centre de commutation, et il est ensuite acheminé grâce aux installations de Téléglobe. Cependant, Téléglobe ne s'occupe généralement pas des services de télécommunications entre le Canada et les États-Unis ou le Mexique.

Les Télécommunications CNCP

Les Télécommunications CNCP (CNCP) sont une entreprise nationale de télécommunications exploitant son propre réseau. Le CNCP fournit un large éventail de services concurrentiels de téléphonie vocale et de transmission

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[2] Ministère des Communications, "Énoncé de la politique des télécommunications relatives à Téléglobe Canada," novembre 1986, p. 2.

TABLEAU 2-2

Principales compagnies de téléphone indépendantes selon leurs provinces et territoires respectifs

COMPAGNIE	TYPE DE PROPRIÉTÉ	ZONE DE DESSERTE
Télécommunications Terra Nova (Terra Nova)	Appartenant au CN*	Une partie de Terre-Neuve
Québec-Téléphone** (Québec-Tél)	Appartenant à des investisseurs	Une partie du Québec
Télébec	Appartenant à des investisseurs	Une partie du Québec
Northern Telephone (Northern Tel)	Appartenant à des investisseurs	Une partie de l'Ontario
Thunder Bay Telecommunications (Thunder Bay)	Appartenant à la municipalité	Ville de Thunder Bay (Ontario)
'edmonton telephones' ('et')	Appartenant à la municipalité	Ville d'Edmonton (Alberta)
Prince Rupert City Telephones (Prince Rupert)	Appartenant à la municipalité	Ville de Prince Rupert (Colombie-Britannique)
Norouestel (NWT)	Appartenant au CN*	Partie Ouest des Territoires du Nord-Ouest, Yukon et Nord de la Colombie-Britannique

* En août 1988, la vente des Télécommunications Terra Nova et de la Norouestel à la Newfoundland Telephone Company Limited et à la BCE Inc., a été annoncée. CN News, 22 août 1988.

** Québec-Téléphone est un membre associé de Telecom Canada.

de données et de messages dans l'ensemble du pays (à l'exception du service téléphonique public local et interurbain). Le CNCP a été constitué en association le 1er janvier 1980 et regroupe certaines activités de télécommunications du Canadien National, une société de chemins de fer d'État, et du Canadien Pacifique Ltée, une société privée. Le CNCP a obtenu le droit de réaliser l'interconnexion de son réseau aux installations locales de distribution de Bell Canada et de la B.C. Tel, afin de pouvoir fournir des services compétitifs de téléphonie vocale et de transmission de données.[3] Le CNCP exploite son propre réseau national de relais par micro-ondes et ses propres centres de commutation. En outre, le CNCP a installé des systèmes à fibres optiques sur les grandes artères à forte densité, en vue de la mise sur pied éventuelle d'un réseau national de fibres optiques.

B.C. Rail

La B.C. Rail exploite un réseau de transmission par micro-ondes de son terminus de Vancouver Nord à Fort Nelson (Colombie-Britannique), parallèlement à son réseau de voies ferrées. En 1985, le CRTC a permis à la B.C. Rail de procéder à l'interconnexion de son réseau avec celui de la B.C. Tel, afin qu'elle puisse fournir des services compétitifs similaires à ceux du CNCP.[4] Le CRTC a toutefois rejeté par la suite une requête de la B.C. Rail visant à obtenir l'interconnexion avec la Norouestel.[5]

Radiotélécommunicateurs et fournisseurs de services radio cellulaire

Les radiotélécommunicateurs constituent un secteur modeste, mais néanmoins croissant de l'industrie des télécommunications au Canada. À l'origine, en 1963, les radiotélécommunicateurs ont été autorisés, par le ministère des Communications, à fournir au public des services de téléappel, de radiotéléphone mobile, de renvoi des messages, de téléavertissement et de transmission de données.

En 1985, le ministère des Communications a émis des permis relatifs à la prestation d'un nouveau service radio cellulaire portatif, raccordé au réseau de téléphone public commuté. Le ministère des Communications a opté pour la formule d'un duopole, et les services en question sont fournis par les compagnies de téléphone, d'une part, et par un exploitant privé, d'autre part.

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[3] Décision Télécom CRTC 79-11 du 17 mai 1979 intitulée Les Télécommunications du CNCP : Interconnexion avec Bell Canada; et décision Télécom CRTC 81-24 du 24 novembre 1981 intitulée Les Télécommunications du CNCP : Interconnexion avec la Compagnie de téléphone de la Colombie-Britannique.

[4] Décision Télécom CRTC 85-19 du 29 août 1985 intitulée Concurrence intercirconscription et questions connexes.

[5] Décision Télécom CRTC 87-9 du 31 juillet 1987 intitulée B.C. Rail Ltd. - Interconnexion avec la Norouestel Inc.

Celui-ci, Cantel Inc., a été sélectionné par le Ministère pour assurer un service radio cellulaire dans 23 régions métropolitaines désignées. En juin 1988, Cantel était réputée desservir 24 centres de la Nouvelle-Écosse, du Québec, de l'Ontario, du Manitoba, de l'Alberta et de la Colombie-Britannique.[6] Un certain nombre de compagnies de téléphone offrent, à l'heure actuelle, un service radio cellulaire et d'autres sont en train, ou envisagent, de le faire. À l'échelle nationale, le service assuré par les compagnies de téléphone est coordonné par l'intermédiaire de CellNet, association de filiales de compagnies de téléphone offrant un service radio cellulaire dans l'ensemble du pays.

Dans les zones desservies par Bell Canada et B.C. Tel, les fournisseurs de services radio cellulaire acheminent le trafic interurbain, en combinant les installations de leurs propres réseaux et celles d'autres télécommunicateurs. Dans les zones desservies par des compagnies de téléphone assujetties à la réglementation provinciale et où il existe un service radio cellulaire, le trafic interurbain emprunte les réseaux interurbains des compagnies de téléphone.

Autres compagnies

En plus des compagnies sus-mentionnées, il existe un nombre croissant de fournisseurs de services à valeur ajoutée, qui se servent d'installations louées pour offrir toute une gamme de services spécialisés, et notamment : courrier électronique et vocal, messagerie graphique, télécopie, vidéo-conférence, acheminement électronique de données, télé-achat et bases de données. Ces sociétés fournissent des services qui ajoutent de la valeur aux services de télécommunications sous-jacents, loués des transporteurs publics, ou les "améliorent".[7] En outre, un certain nombre de sociétés exploitent des réseaux privés par micro-ondes (entreprises de service public, sociétés de chemins de fer, entreprises de câblodistribution), et sont autorisées par le ministère des Communications à acheminer leur trafic. Bien que ces compagnies n'offrent pas à l'heure actuelle de services au public, elles le pourraient si l'entrée en concurrence permettait la vente des excédents de capacité aux fins de la fourniture d'un service téléphonique interurbain public.

2.2 Services de télécommunications

Les entreprises précitées offrent aux Canadiens et aux Canadiennes une vaste gamme de services de communications commutés : de lignes directes pour la transmission de la voix, des données et des images. Quant aux compagnies de téléphone, elles assurent principalement les services téléphoniques publics commutés. Ils se divisent en deux catégories : les services locaux (de

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[6] Network Letter, "Cantel Inc.," 6 juin 1988, p. 4.

[7] Divers organismes de réglementation ont d'autres définitions de services améliorés; par exemple, voir Services améliorés, décision Télécom CRTC 84-18 du juillet 1984.

circonscription) et les services interurbains (intercirconscription). Les principaux services locaux incluent les services de résidence et d'affaires de lignes individuelles ou de lignes partagées, le service PBX, le service Centrex et le service de téléphone public (téléphone payant).

Le service interurbain de base est un service téléphonique interurbain public commuté, et il se divise en deux catégories principales : le service interurbain à communications tarifées (SICT), et le service interurbain planifié (WATS). Le SICT constitue le service interurbain de base : il permet la communication, entre temps réel, des utilisateurs se trouvant dans diverses circonscriptions locales du Canada, et avec certains points des États-Unis, du Mexique et d'outre-mer. Le WATS est un service interurbain pour lequel des rabais sont consentis selon le volume, et auquel recourent les abonnés d'affaires. Le WATS de départ permet à l'utilisateur canadien de composer chez lui des appels interurbains à destination de points canadiens. Le WATS d'arrivée (service 800) permet de recevoir des appels de poste à poste, composés par l'utilisateur à partir de zones 800 au Canada, aux États-Unis et, dans une mesure restreinte, outre-mer, sans frais pour l'utilisateur qui effectue l'appel de départ.

Les compagnies de téléphone, Télésat Canada, le CNCP et la B.C. Rail se font concurrence pour la prestation d'une série de services spécialisés de lignes directes en mode vocal, avec interconnexion (lignes hors circonscription, lignes de jonction, postes supplémentaires hors lieux), ou sans interconnexion. En février 1987, le CRTC a également autorisé la revente et le partage des installations et des services offerts par les télécommunicateurs assujettis à la réglementation fédérale, de façon à ce qu'ils puissent offrir des services interconnectés et non-interconnectés de lignes directes en mode vocal, et de transmission de données et d'images.[8] On s'attend à ce que cette décision provoque une augmentation du nombre des fournisseurs de services de télécommunications destinés au service d'affaires.

2.3 Revenus des télécommunications interurbaines

Le tableau 2-3 donne un aperçu des revenus réalisés avant partage sur les services interurbains par des compagnies canadiennes de téléphone choisies. L'industrie a réalisé plus de 5,2 milliards de dollars de revenus en 1986, dont 96 % sont attribuables aux compagnies membres de Telecom Canada. Les revenus intracompagnie constituent le pourcentage le plus élevé de l'ensemble des revenus de l'interurbain soit 57,9 %. Les revenus intracompagnie de Bell Canada sont les plus forts, soit 66,3 % des revenus réalisés sur les services interurbains. Cela s'explique probablement par le fait que la zone de desserte de Bell Canada couvre des parties du Québec, de l'Ontario et des Territoires du Nord-Ouest et comprend

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[8] Décision Télécom CRTC 87-1 du 12 février 1987 intitulée Revente dans le but de dispenser des services de circonscription de base; et décision Télécom CRTC 87-2 du 12 février 1987 intitulée Révisions tarifaires reliées à la revente et au partage.

TABLEAU 2-3

Revenus réalisés sur le service interurbain public par des compagnies de téléphone canadiennes choisies, 1986 (1) (en millions de dollars)

Compagnie de téléphone	Revenus				
	Intra-compagnie	Intercom-pagnie (2)	Canada-E.-U.	Canada-outre-mer	Total des revenus
Nfld Tel	n/d	n/d	n/d	n/d	70
Island Tel	6	11	1	0	18
MT&T	76	73	9	6	165
NBTel	51	57	8	3	119
Bell Canada (3)	1 961	302	348	345	2 956
Manitoba Tel(4)	71	110	18	11	210
SaskTel	n/d	n/d	n/d	n/d	232
AGT(5)	257	187	36	25	505
B.C. Tel(3)	396	192	72	64	724
Terra Nova	n/d	n/d	n/d	n/d	n/d
Québec-Tél	25	50	n/d	n/d	74
Télébec	10	40	2	0	52
Northern Tel(6,8)	n/d	n/d	n/d	n/d	20
Thunder Bay(6,8)	n/d	n/d	n/d	n/d	19
'edmonton tel'(6)	n/d	n/d	n/d	n/d	n/d
Prince Rupert(6)	n/d	n/d	n/d	n/d	4
Norouestel(7)	8	26	1	1	36
Total (9)	3 021	1 170	507	463	5 204
% des revenus totaux de l'interurbain	57,9%	22,5%	9,7%	8,8%	

Notes:

(1) Service téléphonique interurbain public (interurbain) = SICT, WATS et Service 800; n/d signifie soit non disponible, soit confidentiel.

(2) Les revenus intercompagnies incluent les revenus provenant de services fournis entre deux compagnies de téléphone canadiennes dont les zones de desserte sont contiguës (compagnies adjacentes membres de Telecom Canada) et celles de services fournis entre deux compagnies ou plus dont les zones de desserte ne sont pas contiguës (compagnies transcanadiennes membres de Telecom Canada).

(3) Les revenus du WATS et du Service 800 sont intégrés aux revenus intracompagnie.

(4) Pour l'année se terminant le 31 mars 1987.

(5) Les revenus du Service 800 incluent ceux en provenance de la zone desservie par 'et' et sont intégrés aux revenus intracompagnie.

(6) Services interurbains dispensés par d'autres télécommunicateurs, (par ex., AGT fournit les services interurbains aux abonnés de 'et').

(7) Le WATS et le Service 800 ne sont pas offerts.

(8) Le SICT seulement.

(9) Les totaux des colonnes incluent des renseignements déposés à titre confidentiel. Les totaux des rangées ne correspondent pas à ceux des colonnes étant donné que les compagnies n'ont pas toutes fourni de données discrètes.

SOURCES: Selon les réponses fournies par les compagnies de téléphone aux demandes de renseignements formulées par les membres du Groupe de travail, 30 septembre 1987.

notamment le couloir Québec–Windsor, à forte densité de population. D'autres compagnies connaissent des revenus intracompagnie élevés, sans doute pour la même raison, à savoir que leurs zones de desserte englobent de nombreux grands centres de population. Les revenus réalisés sur le trafic intercompagnies, Canada–É.–U. et Canada–outre–mer, sont comparativement moins élevées, soit 22,5 %, 9,7 % et 8,8 %, respectivement, de l'ensemble des revenus de l'interurbain.[9]

Pour ce qui est du trafic Canada–É.–U. et Canada–outre–mer, c'est Bell Canada qui enregistre, de loin, la part la plus élevée des revenus réalisés que ce soit en dollars ou en pourcentage des revenus de l'interurbain de la compagnie. De la même façon, les revenus intercompagnies de Bell Canada sont, de loin, les plus élevés.

L'examen des revenus après partage (tableau 2–4) permet de dégager une perspective quelque peu différente, pour ce qui est des revenus des compagnies de téléphone provenant du service interurbain. Les revenus après partage sont nets des paiements effectués par les autres compagnies de téléphone ou reçus par elles, au titre des appels interurbains en provenance ou à destination de la zone de desserte d'une compagnie donnée. En ce sens, les revenus après partage diffèrent des revenus réalisés et permettent de mesurer la dépendance réelle d'une compagnie par rapport à telle ou telle source de revenus interurbains. Pour la plupart des compagnies, les revenus interurbains constituent une source essentielle de revenu, allant de 47,5 % pour Island Tel à 61,6 % pour la Norouestel. Seules les compagnies opérant au niveau municipal ou ne fournissant généralement pas leurs propres installations interurbaines (Northern Tel, Thunder Bay, "edmonton tel" et Prince Rupert) sont moins dépendantes des revenus interurbains.

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[9] Les revenus des services interurbains appartiennent à l'une des catégories suivantes. (1) Intracompagnie : revenus reçus de services fournis par une compagnie de téléphone canadienne exclusivement à l'intérieur de sa propre zone d'exploitation. (2) Intercompagnies : revenus reçus de services fournis par une compagnie de téléphone canadienne dont les zones de desserte sont contiguës (catégorie de compagnie adjacente de Telecom Canada), ainsi que celles reçues de services fournis entre deux ou plusieurs compagnies de téléphone canadiennes dont les zones de desserte ne sont pas adjacentes (catégorie transcanadienne de Telecom Canada). De plus, les revenus provenant d'un certain trafic désigné spécifiquement (p. ex. Voicecom II, Multicom II, Dataroute, Datalink, Datapac, etc.) sont inclus sans égard au fait que le trafic survienne ou non à l'intérieur de la zone de desserte d'une seule compagnie de téléphone. (3) Canada–États–Unis : revenus reçus de services fournis entre une compagnie de téléphone canadienne et une compagnie de téléphone américaine excluant les compagnies de téléphone se trouvant dans des états américains non contigus et des territoires comme l'Alaska et Hawaï, mais incluant Puerto Rico, ou entre une compagnie de téléphone canadienne et une compagnie exploitant au Mexique. (4) Canada–outre–mer : revenus reçus de services fournis par une compagnie de téléphone canadienne utilisant les bureaux de transit de Téléglobe Canada situées à Vancouver, à Toronto et à Montréal pour le trafic en provenance ou à destination du Canada. Les revenus du trafic entre le Canada et l'Alaska ou Hawaï appartiennent également à la catégorie Canada–outre–mer.

TABLEAU 2-4

Revenus après partage réalisés sur le service interurbain public par des compagnies de téléphone canadiennes choisies, 1986 (en millions de dollars)

Compagnie de téléphone	Revenus				Total des revenus d'exploi-tation	Revenus exprimés en pourcentage du total des revenus d'exploitation			
	Intra-compagnie	Non intra-compagnie (2)	Autre (3)	Total des rev. de l'interurbain		Intra-compagnie	Non intra-compagnie	Autre	% des rev. de l'interurbain
Nfld Tel	n/d	n/d	n/d	79	146	n/d	n/d	n/d	54,2%
Island Tel	6	11	0	17	36	15,7%	31,9%	0,0%	47,5%
MT&T	76	94	0	171	333	23<0%	28,3%	0,0%	51,3%
NBTel	51	79	1	131	258	19,8%	30,5%	0,4%	50,8%
Bell Canada (4)	1 792	1 086	0	2 878	5 946	30,1%	18,3%	0,0%	48,4%
Manitoba Tel (5)	71	117	3	191	377	18,8%	31,1%	0,7%	50,6%
SaskTel	n/d	n/d	n/d	270	450	n/d	n/d	n/d	60,1%
AGT (6)	291	264	8	563	1 066	27,3%	24,8%	0,8%	52,8%
B.C.Tel (7)	322	402	0	724	1 347	23,9%	29,8%	0,0%	53,8%
Terra Nova	9	14	0	23	44	21,3%	30,7%	0,0%	52,0%
Québec-Tél	25	74	1	99	183	13,5%	40,3%	0,6%	54,3%
Télébec	10	50	3	62	114	9,0%	44,0%	2,2%	54,5%
Northern Tel	n/d	n/d	n/d	11	29	n/d	n/d	n/d	39,3%
Thunder Bay	n/d	n/d	n/d	9	23	n/d	n/d	n/d	37,8%
'edmonton tel' (8)	n/d	n/d	n/d	32	238	n/d	n/d	n/d	13,2%
Prince Rupert	n/d	n/d	n/d	1	6	n/d	n/d	n/d	16,7%
Norouestel	8	28	3	39	64	13,1%	43,1%	5,3%	61,6%
Total (9)	2 822	2 399	28	5 301	10 660	25,3%	22,5%	1,4%	49.7%

Notes: (1) Service téléphonique interurbain public= SICT/WATS et le Service 800; n/d signifie soit non disponible, soit confidentiel.

(2) La colonne "non intracompagnie" inclut les revenus partagés provenant de services fournis entre deux compagnies de téléphone canadienne (compagnie adjacente de Telecom Canada et compagnies transcanadiennes) de même que ceux des services Canada-É.-U. et Canada-outre-mer.

(3) La colonne "autre" inclut la part, pour la compagnie, des revenus partagés entre les compagnies indépendantes provenant du trafic transcanadien et Canada-É.-U.

(4) La colonne "intracompagnie" inclut la part, pour Bell Canada, des revenus partagés provenant du trafic entre Bell Canada et les compagnies indépendantes.

(5) Les données pour Manitoba Tel se rapportent à l'année se terminant le 31mars 1987.

(6) Avant les paiements additionnels (évalués à 30,5 millions de dollars et dont les compagnies membres de Telecom Canada sont recevables) dûs rétroactivement à 'et' en vertu de la décision arbitrale rendue le 28 février 1987.

(7) La colonne "non intracompagnie" inclut tous les revenus partagés provenant du WATS et du Service 800. La colonne "intracompagnie" n'inclut que le SICT.

(8) Comformément à la décision arbritale rendue le 28 février 1987.

(9) Les totaux des colonnes incluent des renseignements déposés à titre confidentiel. Les totaux des rangées ne correspondent pas à ceux des colonnes étant donné que les compagnies n'ont pas toutes fourni de données discrètes.

SOURCES: Selon les réponses fournies par les compagnies de téléphone aux demandes de renseignements formulées par des membres du Groupe de travail, 30/09/87.

Pour l'ensemble de l'industrie, les revenus interurbains représentent, en moyenne,près de 50 % du total des revenus d'exploitation des compagnies de téléphone canadiennes. Le tableau donne pour chaque compagnie le degré de sa dépendance sur les revenus intracompagnie par rapport à d'autres sources de revenus.

2.4 Politiques et réglementation

La structure réglementaire des télécommunications au Canada a évolué et, aujourd'hui, la réglementation des sociétés exploitantes de télécommunications relève soit a) de l'organisme fédéral de réglementation (Conseil de la radiodiffusion et des télécommunications canadiennes), soit b) d'un organisme provincial de réglementation, soit c) d'un conseil municipal, soit d) d'un cabinet provincial. Le CRTC réglemente la B.C. Tel, Bell Canada, la Norouestel, Téléglobe Canada, Télésat Canada et les Télécommunications Terra Nova. Ces compagnies enregistrent plus de 70 % des revenus des activités de télécommunications au Canada. Les provinces réglementent les télécommunicateurs qui relèvent de leur compétence. Le CRTC a aussi conclu que Cantel est une compagnie au sens où l'entend la *Loi sur les chemins de fer* et, ainsi, elle est de son ressort. Certaines provinces ont mis en doute la compétence du CRTC dans cette affaire. En Saskatchewan, c'est le cabinet provincial qui exerce son contrôle sur les compagnies de télécommunications de compétence provinciale. Dans le cas de Terre-Neuve, de la Nouvelle-Écosse, de l'Île-du-Prince-Édouard, du Nouveau-Brunswick, du Manitoba et de l'Alberta, c'est un conseil ou une commission des services publics qui réglemente la principale compagnie de téléphone desservant la province. Dans le cas du Québec, de l'Ontario et de la Colombie-Britannique, les compagnies de téléphone indépendantes sont réglementées au palier provincial. Cependant, dans le cas de Prince Rupert City Telephones et de "edmonton telephones", la réglementation est exercée par un conseil municipal. La British Columbia Utilities Commission réglemente la zone desservie par Prince Rupert City Telephones à l'extérieur des limites municipales de Prince Rupert.

Bien que chaque gouvernement soit habilité à établir des politiques dans les domaines qui relèvent de leur compétence respective, depuis quelques années, les ministres fédéral, provinciaux et territoriaux des Communications ont pris l'habitude de se réunir pour étudier les politiques nationales et mettre en place les mécanismes de coopération. Les ministres se sont notamment rencontrés à Edmonton en avril 1987 pour sanctionner un ensemble de six principes généraux, ayant pour but de faciliter la formulation des politiques et règlements gouvernementaux en matière de télécommunications, secteur en pleine mutation. En outre, les ministres ont examiné deux ententes : la première porte sur le partage des responsabilités gouvernementales en vue de faciliter la coordination des politiques et règlements gouvernementaux; et la seconde porte sur une politique de concurrence et d'interconnexion susceptible d'assurer un degré de concurrence comparable dans l'ensemble du Canada, en matière de services et d'équipement de télécommunications. Aucune entente finale n'a encore été conclue.

2.5 Situation actuelle de la concurrence au sein des télécommunications canadiennes

Plusieurs événements majeurs ont eu pour effet d'accroître la concurrence au sein des télécommunications canadiennes, dont vici les plus notable.

- Les organismes de réglementation ont autorisé le raccordement des terminaux d'abonnés, y compris les installations d'abonnés avec postes supplémentaires, aux installations de toutes les compagnies de téléphone, à l'exception de SaskTel, de Manitoba Telephone System et de Newfoundland Tel. Cependant, ces dernières peuvent autoriser le raccordement d'appareils résidentiels supplémentaires et de composantes sans adressage du réseau. En Nouvelle-Écosse, les équipements d'abonnés, à l'exception des appareils de location à ligne simple, ne sont plus considérés dans la base tarifaire pour établir les besoins en revenus de MT&T.

- Dans la plupart des juridictions, sauf celle du CRTC, les services à valeur ajoutée peuvent être offerts en régime concurrentiel, bien qu'il n'existe pas, dans la plupart des cas, sauf au CRTC, de politique officielle relative à la revente en vue de fournir de tels services.

- Le CRTC ainsi que les organismes de réglementation de la Nouvelle-Écosse, du Québec, du Manitoba et de l'Alberta ont autorisé l'interconnexion du service cellulaire de Cantel.

- Le CRTC a autorisé le CNCP, Télésat et la B.C. Rail à procéder à l'interconnexion de leurs installations et de celles de Bell Canada et de la B.C. Tel (la B.C. Tel peut uniquement se raccorder aux installations de la B.C. Rail), afin qu'elles puissent offrir des services de lignes directes, de transmission des données et de téléphonie vocale. L'Ontario a aussi permis au CNCP d'interconnecter ses installations, dans une certaine limite, à celles de Thunder Bay Telecommunications. "edmonton telephones" a également permis à un nombre limité d'abonnés du CNCP de se raccorder à ses installations.

- Le CRTC a autorisé la revente et le partage, en vue de dispenser des services autres que le SICT/WATS, y compris la revente et le partage en vue de fournir des services téléphoniques de circonscription de base, et ce, à l'exception des services de téléphone payant, dans les zones desservies par Bell Canada, la B.C. Tel, la Norouestel et les Télécommunications Terra Nova. En outre, la revente du SICT pour offrir le SICT est autorisée par le CRTC, et certaines autorités provinciales, pour les hôtels et les services radiotéléphoniques mobiles spécialisés raccordés à un réseau. Les installations et services du CNCP et de Télésat Canada peuvent également être partagés et revendus dans l'ensemble du pays, le cas échéant.

- Les radiotélécommunicateurs, y compris les fournisseurs de services radio cellulaire, ont également été autorisés à procéder à l'interconnexion de leurs installations, afin de pouvoir assurer le SICT dans les zones desservies par une compagnie de téléphone réglementée par le CRTC. Cependant, le point de

départ ou d'arrivée de ces communications doit être un terminal mobile ou un téléphone cellulaire.

- Face à l'intensification de la concurrence, les organismes de réglementation ont adopté différents mécanismes d'approbation des tarifs : certains ont exempté de l'approbation de tarifs le service cellulaire (comme le CRTC, la Nouvelle-Écosse et le Manitoba) ainsi que certains services du CNCP (le CRTC, sous réserve d'un pourvoi en appel à la Cour fédérale d'appel),[10] d'autres se basent sur les coûts, par catégorie, des services concurrentiels offerts par les compagnies de téléphone (Alberta) et d'autres ont choisi de ne pas réglementer du tout les services à valeur ajoutée offerts par les compagnies de téléphone (Î.-P.-É, Nouvelle-Écosse, Saskatchewan).

La concurrence n'est pas autorisée pour la prestation du SICT/WATS, sauf pour les services radio cellulaire et de radio téléphone mobile. Il en est résulté, dans certaines juridictions, la nécessité d'établir une ligne de démarcation nette entre les services qui peuvent être offerts en régime concurrentiel et ceux qui ne le peuvent pas. Dans la pratique, cela peut se révéler extrêmement difficile. Pour autoriser la concurrence dans la prestation de tous les services interurbains à l'exception du SICT/WATS, il faudrait adopter des définitions précises, reposant sur les caractéristiques des services ou les caractéristiques techniques, de ce qui constitue des SICT/WATS. Lorsque de nouveaux services sont en voie d'élaboration et que la technologie évolue rapidement, de telles définitions risquent de devenir rapidement désuètes et, ainsi, la concurrence risque inévitablement d'empiéter sur des marchés où elle est interdite.

Le CRTC a longuement étudié le bien-fondé d'autoriser ou non la concurrence dans le SICT/WATS, en réponse à une requête du CNCP visant à obtenir l'autorisation d'interconnecter ses installations aux réseaux téléphoniques publics commutés de Bell Canada et de la B.C. Tel dans le but de concurrencer ces compagnies dans la prestation du service téléphonique interurbain public.[11] Le CRTC a conclu que l'implantation de la concurrence dans le SICT/WATS comporterait un certain nombre d'avantages possibles, mais qu'il ne serait pas dans l'intérêt public d'accéder à la requête du CNCP. À ce jour, aucun autre organisme de réglementation n'a reçu de requête concernant cette question.

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[10] Cour d'appel fédérale, Telecommunications Workers Union c. Conseil de la radiodiffusion et des télécommunications canadiennes et les Télécommunications CNCP (au sujet de la décision Télécom CRTC 87-12 du 22 septembre 1987 intitulée Télécommunications CNCP - Requête en exemption de certaines exigences réglementaires).

[11] Décision Télécom CRTC 85-19 du 29 août 1985 intitulée Concurrence intercirconscription et questions connexes.

3.0 EXPÉRIENCES ÉTRANGÈRES DE CONCURRENCE EN MATIÈRE DE SERVICE TÉLÉPHONIQUE INTERURBAIN PUBLIC

Trois pays, à savoir les États-Unis, le Royaume-Uni et le Japon ont autorisé, à différents degrés, la concurrence dans la prestation du service téléphonique interurbain public. Ce chapitre contient une analyse de la nature, de la portée et des répercussions de la concurrence dans ces trois pays. Il contient également une discussion des politiques et mesures prises par l'Europe en matière de concurrence dans le domaine des télécommunications. Si, en Europe, la concurrence n'existe pas au niveau du service téléphonique interurbain public, les politiques de concurrence adoptées par les Européens peuvent cependant éclairer les ministres.

La discussion relative aux expériences étrangères pour ce qui est de la concurrence s'appuie sur de nombreux documents de travail internes et, dans le cas des É.-U., sur les conclusions de plusieurs études d'experts-conseils commandées par le Groupe de travail. La première étude à cet égard intitulée "Étude de l'expérience américaine en matière de concurrence dans le service public interurbain", passe en revue la documentation existante et elle a été réalisée par Brownlee Thomas, Ville LaSalle (Québec). D'autres études d'experts, commandées par le Groupe de travail, envisagent divers aspects de l'expérience américaine en matière de concurrence, d'un point de vue plus spécifique; lorsque nous l'avons jugé utile, des extraits de ces études sont inclus au présent chapitre.

3.1 Nature, portée et répercussions de la concurrence aux États-Unis

Cette section analyse la concurrence aux États-Unis depuis ses débuts jusqu'à l'actuelle concurrence dans le service téléphonique interurbain public, et discute de ses répercussions sur les tarifs, la qualité et la disponibilité des services. En outre, elle présente un aperçu de la structure concurrentielle de l'industrie, des intervenants et de leur performance relative dans un climat de concurrence.

3.1.1 Événements clés dans l'apparition de la concurrence

Le tableau 3-1 présente un résumé des événements clés qui ont présidé à l'apparition de la concurrence aux États-Unis. La première action décisive pour l'ouverture du marché des télécommunications a été la décision "Above 890", rendue en juillet 1959 par la Federal Communications Commission (FCC) concernant les réseaux de micro-ondes privés.[12] La FCC réglemente les télécommunications interétats et internationales aux États-Unis. Cette décision a donné le signal de l'arrivée de la concurrence dans l'industrie des lignes directes en mettant fin aux pratiques en vigueur jusque-là et en vertu desquelles seuls les télécommunicateurs et les radiodiffuseurs établis pouvaient obtenir une licence d'exploitation de réseaux par micro-ondes. Il a cependant encore fallu attendre 10 ans pour qu'un deuxième télécommunicateur soit autorisé à pénétrer le marché à titre de transporteur public. En effet, la FCC autorisait en 1969 la compagnie Microwave

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[12] Federal Communications Commission (FCC), Docket 11866, "In the Matter of Allocation of Frequencies in the Bands Above 890 Mc. puis," Report and Order, 27 FCC 359 (1959); reconsideration denied, 29 FCC 825 (1960).

TABLEAU 3-1

Événements clés ayant présidé à la concurrence dans le domaine des télécommunications aux États-Unis

1956	AT&T n'est pas autorisée à faire de la concurrence sur le marché de l'informatique.
1957	La FCC autorise le raccordement de dispositifs passifs (décision Hush-A-Phone).
1959	La FCC approuve la mise en place de réseaux privés de micro-ondes.
1968	La FCC lève l'interdiction frappant les équipements de téléphone n'appartenant pas à Bell.
1969	La FCC autorise la concurrence dans la prestation du service interurbain de lignes directes.
1971	La FCC prescrit les règles gouvernant les compagnies spécialisées offrant un service interurbain.
1974	Le ministère de la Justice intente un procès anti-trust contre AT&T.
1977	La Cour autorise la MCI à entrer sur le marché du service interurbain public.
1980	La FCC déréglemente les équipements téléphoniques et établit une démarcation entre services d'information et services de télécommunication.
1981	La FCC juge que revente et partage inconditionnels sont dans l'intérêt du public.
1982	En vertu d'un Décret d'acceptation, AT&T et le ministère de la Justice conviennent de dissocier AT&T du Bell System. Dans la modification apportée à sa décision finale, le juge Greene établit les conditions détaillées du démantèlement d'AT&T, et notamment les restrictions imposées aux compagnies exploitantes de Bell en matière de concurrence.
1984	Le démantèlement de la compagnie AT&T entre en vigueur le 1er janvier.
1985	Les règlements prescrits par la FCC en matière de tarification entrent en vigueur et le coût des installations téléphoniques est directement répercutés sur les abonnés.
1985	La FCC précise les conditions de la concurrence internationale par le biais d'une Ordonnance sur la concurrence des télécommunicateurs internationaux (International Competitive Carrier Order).
1986	La FCC prescrit les règles régissant "l'architecture ouverte du réseau" et l'avenir de la concurrence au niveau des services d'information.
1987	Dans la révision de la première modification apportée à sa décision finale, le juge Greene rejette la majorité des recommandations visant à assouplir la concurrence.

SOURCES: Geoffrey W. Gevalt, "After the Breakup: A New World of Telecommunications," HBS Bulletin, décembre 1987; Brownlee Thomas, étude commandée par le Groupe de travail; D.A. Ford and Associates, "U.S. Experience with Competition in Long-Distance Telephone Service," étude réalisée pour le ministère des Transports et des Communications du Gouvernement de l'Ontario, mars 1984; Dow, Lohnes and Albertson, Telecom Strategy 88: Competition and National Policy; Executive Seminar, ayant eu lieu les 25 et 26 janvier 1988, documents de références, Washington (D.C.).

Communications Inc. (connue aujourd'hui sous le nom de MCI Inc.) à offrir un service de lignes directes par micro-ondes, concurrençant directement la compagnie American Telephone and Telegraph Company (AT&T).[13]

En 1971, la FCC adoptait une politique plus générale visant à englober en un seul groupe les entreprises de télécommunications spécialisées. Grâce à cette politique, la FCC autorisait l'accès au marché des services de lignes directes.[14] Vers la fin des années 1960, la FCC supprimait par ailleurs l'obstacle que constituait la réglementation, et permettait l'interconnexion des équipements d'abonnés. Par ces deux décisions, l'intention de la FCC était de rendre pleinement concurrentiels les marchés des lignes directes et des équipements d'abonnés.

À partir du moment où la MCI était autorisée à offrir un service de lignes directes, il ne lui était pas difficile d'offrir un service de lignes directes "partagé" (autrement dit un service interurbain commuté), ce qu'elle fit en janvier 1975. Elle lui donna le nom d'"Execunet". Cependant, la FCC refusa d'approuver les tarifs proposés par la MCI pour le service Execunet et elle semble avoir ainsi tiré la ligne en ce qui a trait au service téléphonique interurbain public. La MCI en appela aux tribunaux et réussit à faire renverser l'ordonnance de la FCC par la Cour d'appel en juillet 1977.[15]

La Cour statua qu'étant donné que la FCC n'avait jamais établi de manière affirmative que l'intérêt public exigeait qu'un fournisseur monopolistique offre le service interurbain interétat, un service d'un concurrent ne pouvait être exclu. AT&T répondit en refusant l'interconnexion, et la FCC abonda dans le même sens en présentant une requête en permission d'en appeler de ce jugement dans sa cause devant la Cour suprême des É.-U. En janvier 1978, la Cour suprême refusa d'accéder à la requête de la FCC et, en avril de la même année, la Cour d'appel ordonna à l'AT&T d'assurer l'interconnexion à la MCI.[16]

Suite à l'intervention de la Cour dans l'affaire Execunet, la FCC décida d'ouvrir le dossier 78-72, enquête visant à déterminer si l'intérêt public exigeait la

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[13] FCC, Docket 16509, "In Re Applications of Microwave Communications, Inc. for Construction Permits to Establish New Facilities in the Domestic Public Point-to-Point Microwave Radio Service at Chicago, Ill., St. Louis, Mo., and Intermediate Points," Decision (the MCI decision), 18 FCC 2d 953 (1969); reconsideration denied, 21 FCC 2d 190 (1970).

[14] FCC, Docket 18920, "In the Matter of Establishment of Policies and Procedures for Consideration of Applications to Provide Specialized Common Carrier Services in the Domestic Point-to-Point Microwave Radio Service and Proposed Amendments to Parts 21, 43 and 61 of the Commission's Rules, "First Report and Order (Common Carriers - Competition for Specialized Services), 22 RR 2d 1501 (1971).

[15] MCI Telecom Corp. v. FCC (Execunet I), 561 F.2d 365 (D.C. Cir. 1977).

[16] Cert. denied, 434 US 1040 (1978); MI Telecom Corp. v. FCC (Execunet II), 580 F.2d 590 (D.C. Cir. 1978).

prestation du SICT/WATS interétat en régime monopolistique et à examiner les répercussions possibles de la concurrence dans la prestation de ces services.[17] En août 1980, la FCC déclara que la concurrence dans la prestation du SICT/WATS servait l'intérêt public.[18]

Par la suite, la FCC devait généraliser la concurrence et réduire la réglementation dans le marché interétats. À cette fin, dans sa décision sur les télécommunicateurs concurrentiels, la FCC a ordonné le classement des entreprises de télécommunications selon qu'elles occupent une position "dominante" ou "non dominante" sur leurs marchés respectifs.[19] Depuis, seules les entreprises dominantes sont assujetties à la réglementation traditionnelle, selon un taux de rendement sur la base tarifaire. Les entreprises non dominantes sont libres d'entrer et de sortir du marché, de construire ou d'acquérir des installations, d'introduire de nouveaux services et de fixer les tarifs sans devoir obtenir l'approbation de l'organisme déréglementation. À l'heure actuelle, seule AT&T est réglementée par la FCC comme étant une entreprise dominante.

Le marché international des télécommunications a également connu des changements majeurs. En effet, dès 1977, la FCC a rendu un certain nombre de décisions qui ont eu un impact sur sa structure.[20] Ces décisions ont considérablement réduit les barrières d'entrée et ont fait ressortir le rôle que pouvait jouer une concurrence accrue en remplacement de la réglementation. Comme pour le marché intérieur, l'intention de la FCC était de faire bénéficier les abonnés de la réduction des prix, de l'amélioration du service et de l'innovation technologique, en favorisant une structure de marché plus concurrentielle. Alors qu'AT&T contrôlait près de 100 % du trafic SICT international, des télécommunicateurs concurrentiels comme MCI, U.S. Sprint et Hawaiian Telephone (une filiale de GTE) se mirent à contester sa suprématie. En 1985, la FCC rend sa décision International Competitive Carrier Order (Ordonnance sur la concurrence des télécommunicateurs internationaux), laquelle simplifie les procédures réglementaires auxquelles étaient tenus les télécommunicateurs offrant un service

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[17] FCC, CC Docket 78-72, "In the Matter of MTS and WATS Market Structure," Notice of Proposed Inquiry and Rulemaking, 67 FCC 2d 757 (1978).

[18] FCC, CC Docket 78-72, "In the Matter of MTS and WATS Market Structure," First Report and Order, 81 FCC 2d 177 (1980).

[19] FCC, CC Docket 79-252, "In the Matter of Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorizations Therefore," First Report and Order, 85 FCC 2d 1 (1980).

[20] Ibid.; Également FCC, CC Docket 80-176, "In the Matter of Regulatory Policies Concerning Resale and Shared Use of Common Carrier International Services Communications," Notice of Proposed Rulemaking, 77 FCC 2d 831 (1980); and CC Docket 80-170, "In the Matter of Proposed Modification of the Commission's Authorized User Policy Concerning Access to the International Satellite Services of the Communications Satellite Corporation," Second Report and Order, 100 FCC 2d 177 (1985).

international.[21] Pour l'essentiel, cette ordonnance attira l'attention de l'opinion internationale sur le traitement réservé par la FCC aux télécommunicateurs concurrentiels du pays. La FCC arriva à la conclusion que seuls AT&T et les télécommunicateurs étrangers occupaient une situation dominante pour la prestation du SICT international. La FCC n'a pas clairement décidé de la revente et de l'utilisation partagée des services de communications internationaux. Mais elle n'a pas non plus empêché plusieurs télécommunicateurs de supprimer ou d'assouplir les restrictions concernant la revente et l'utilisation partagée incluses dans leurs tarifs.

L'issue, en 1982, du procès anti-trust intenté contre AT&T par le ministère de la Justice des É.-U., constitue un événement déterminant de l'évolution de la structure de l'industrie américaine et de la nature de la concurrence.[22] Si le ministère de la Justice a intenté ce procès à AT&T, c'est surtout qu'il estimait préjudiciable le contrôle exercé par AT&T sur les services téléphoniques locaux et la fabrication des équipements téléphoniques. Le procès se solda par le démantèlement négocié entre le ministère de la Justice et AT&T (à compter du 1er janvier 1984), en contrepartie duquel AT&T était autorisée à pénétrer certains secteurs du marché des services d'information et des marchés étrangers. La décision de consentement de 1982 eut pour effet de modifier un décret de consentement antérieur (1956), interdisant à AT&T l'accès à certains marchés.[23]

L'accord a été sanctionné par la Modification apportée à la décision finale rendue par le juge Harold Greene alors qu'il était président de la U.S. District Court changeant ainsi les modalités du décret de 1956. Cette modification comportait des dispositions déterminantes pour la structure de l'AT&T comme de l'industrie dans son ensemble: AT&T se dessaisissait des 22 compagnies exploitantes de Bell (CEB), et qui seraient consolidées en sept holdings régionaux de Bell(HRB);[24] un personnel central serait mis sur pied pour les compagnies du holding qui devraient éventuellement devenir le groupe Bell Communications Research (Bellcore); et les zones jusque-là desservies par les compagnies exploitantes de Bell seraient

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[21] FCC, CC Docket 85-107, "In the Matter of International Competitive Carrier Policies,"Report and Order, 102 FCC 2d 812 (1985).

[22] United States v. American Telephone & Telegraph Company, 552 F. Supp. 131, 195 (D.D.C. 1982), aff'd sub nom., Maryland v. United States, 460 US 1001 (1983): United States v. Western Electric Co., 569 F. Supp. 990 et 1057 (D.D.C. 1983).

[23] United States v. Western Electric Co., 1956 Trade Case, para. 68,246 at 71,134 (D.N.J. 1956).

[24] Les holdings régionaux de Bell comprennent : (1) NYNEX Corporation, (2) Bell Alantic Corporation, (3) Bell South Corporation,(4) Ameritech Corporation, (5) Southwestern Bell Corporation, (6) U.S. West et (7) Pacific TELESIS group.

réorganisées en 161 LATA (zones locales de transport et d'accès).[25] Après la réorganisation, AT&T "nouvelle formule" ne compterait plus que les unités restantes – la division Long Line (service interurbain), les Laboratoires téléphoniques Bell Telephone (R&D) et le groupe Western Electric (fabrication d'équipement téléphonique).

La Modification apportée à la décision finale précisait également les activités commerciales d'AT&T, une fois restructurée, et des CRIHB. Ni AT&T – Communications, comme allait s'appeler la nouvelle société AT&T, ni les CRIHB n'étaient autorisées à offrir des services améliorés. Pendant sept ans, AT&T n'était pas non plus autorisée à utiliser ses propres installations de transmission pour offrir des services de publication électronique, mais elle était libre de faire de la concurrence sur les autres marchés se rattachant aux communications. Les CRIHB n'étaient pas autorisées à accéder aux marchés des services d'information et de la fabrication des équipements d'abonnés. Cependant, elles pouvaient publier des annuaires "Pages jaunes" et offrir des services locaux et interurbains dans les limites des LATA, y compris des services d'accès aux réseaux pour les télécommunicateurs offrant des services interurbains. La FCC a également pris de nombreuses mesures complémentaires à la Modification, y compris les activités sur l'égalité d'accès, ses décisions concernant Computer II et III et l'instance portant sur le Joint Cost.[26]

Parmi les conditions fixées par la Modification apportée à la décision finale, celles qui ont eu le plus d'effet sur l'évolution de la concurrence ont sans doute été les restrictions imposées aux compagnies exploitantes de Bell, les empêchant d'offrir des services interLATA interurbains et les obligeant à accorder à tout télécommunicateur autorisé à fournir des services interLATA[27] "un accès égal", dans tous les centraux locaux d'au moins 10,000 lignes d'accès. La clause de l'égalité d'accès avait pour but de supprimer les traitements préférentiels réservés antérieurement à AT&T.

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[25] Il existe maintenant 193 LATA, y compris les zones de desserte de certaines compagnies de téléphone autres que Bell.

[26] La décision Computer II de la FCC exigeait qu'AT&T fournisse des services de réseaux améliorés et l'équipement terminal par l'entremise de filiales distinctes. Cette exigence a toutefois été levée par la décision Computer III de la FCC. (Voir Second Computer Inquiry, 77 FCC 2d 384 (1979) (Final Decision), aff'd on reconsideration, 84 FCC 2d 50 (1980), 88 FCC 2d 512 (1981), aff'd sub nom; également Phase I, CC Docket 85-229, Report and Order, 104 FCC 2d 958 (1986); reconsidered, 2 FCC Rcd 3035 (1987); et Joint Cost Order, CC Docket 86-111, 2 FCC Rcd 1298 (1987); reconsideration, FCC 87-305 (publié le 16 octobre 1987).

[27] L'égalité d'accès désigne ordinairement le un plus (1+) le numéro demandé; c'est-à-dire le 1 plus indicatif régional plus le numéro de ligne ou à des variantes relatives à, par exemple, des services internationaux ou à des appels acheminés par le téléphoniste. Grâce à l'égalité d'accès, les abonnés peuvent choisir, sur une base de préabonnement, quel télécommunicateur interurbain ils rejoindront en composant 1+ le numéro demandé.

En vertu de la disposition relative à l'égalité d'accès de la Modification apportée à la décision finale, les compagnies exploitantes de Bell étaient tenues d'offrir l'accès commuté, aux mêmes conditions, à tous les télécommunicateurs autorisés à dispenser des services interLATA interurbains. Cela prenait la forme d'une entente d'accès appelée "Feature Group D". Lorsque ce "Feature Group D" était disponible dans une LATA, il devait y avoir élimination progressive de toutes les ententes conclues antérieurement, en vertu desquelles les télécommunicateurs autres que AT&T bénéficiaient de rabais importants sur leurs frais d'interconnexion par rapport à AT&T, de la part des compagnies de téléphone locales.

Les HRB étaient expressément autorisées à demander à la Cour l'autorisation de lever les restrictions sur les services et produits offerts, imposées par la Modification apportée à la décision finale, aux compagnies de Bell après le démantèlement, sur une base individuelle (par un mécanisme d'"exemption"), à condition de prouver qu'il leur était impossible d'abuser de leur pouvoir de monopole. En outre, la Modification apportée à la décision finale devait être revisée au bout de trois ans.

Lors de la première révision de la Modification apportée à la décision finale, en 1987, le juge Greene a réaffirmé l'ensemble des principales dispositions, en dépit des pressions considérables pour que l'on permette aux HRB de faire de la concurrence. Le juge Greene a également supprimé l'obligation pour les HRB de demander une exemption pour se livrer à des activités non liées aux télécommunications.

3.1.2 Frais d'accès interétats

En 1979, suite à l'entrée de la MCI sur le marché du SICT/WATS, la FCC donnait son approbation aux tarifs proposés par AT&T pour permettre l'accès interétat, par l'intermédiaire des installations locales de téléphone (tarif ENFIA). En s'acquittant de ce tarif auprès des compagnies locales de téléphone, les nouveaux concurrents (comme MCI) pouvaient offrir le SICT/WATS en utilisant leurs installations locales d'interconnexion. Avant l'adoption du tarif ENFIA, les installations de la MCI et des autres télécommunicateurs spécialisés étaient raccordées aux centraux locaux pour la fourniture des services de lignes directes, et les frais payés en contrepartie de ces raccordements dépendaient des tarifs généraux régissant les services de lignes directes réservés aux abonnés d'affaires. Le tarif ENFIA reposait sur la composante interétats d'un régime d'importation des coûts pour les revenus provenant de la division Long Line d'AT&T, dans le but de dédommager les autres compagnies de l'utilisation de leurs installations lors d'appels SICT et WATS. En vertu du tarif ENFIA, les télécommunicateurs interurbains se faisant concurrence étaient tenus de dédommager les compagnies locales de téléphone en contrepartie de l'utilisation faite de leurs installations pour acheminer le trafic urbain de départ comme d'arrivée. Par conséquent, les télécommunicateurs interurbains étaient tenus de payer, d'une part, des coûts d'accès aux réseaux locaux et, d'autre part, une contribution d'un montant précis, représentant une partie des coûts des installations locales non sensibles au trafic et attribuables à la juridiction interétats.

Les conditions du tarif ENFIA stipulaient que les coûts représentant la contribution versée par les télécommunicateurs interurbains au titre des coûts non sensibles au trafic devaient être de l'ordre de 35 à 55 % des versements effectués par AT&T. Les frais par ligne étaient évalués en fonction d'un niveau moyen estimatif de trafic par ligne. Les rabais consentis étaient réputés être le reflet d'une qualité inférieure des raccordements par rapport à ceux fournis à AT&T.

On entend par coûts non sensibles au trafic, les coûts qui ne varient pas selon l'utilisation. L'équipement de transmission locale se compose en grande partie d'installations qui permettent de raccorder les abonnés à un central, afin qu'ils puissent effectuer ou recevoir des appels locaux et interurbains. Ces installations (par ex., lignes d'abonnés) sont nécessaires indépendamment de la quantité de trafic d'abonné et, par conséquent, on les considère comme n'étant pas sensibles au trafic. Lors de l'adoption du tarif ENFIA, environ 25 % des coûts non sensibles au trafic étaient attribués à la juridiction interétats (FCC), 25 % à la juridiction intraétat et les 50 % restants, au service local. Bien que les coûts d'accès non sensibles au trafic ne varient pas selon l'utilisation, les organismes de réglementation ont toujours eu pour politique de recouvrer 50 % des coûts des services interurbains à partir des tarifs des services sensibles au trafic, réduisant par là la partie des coûts attribuée aux services locaux et, donc, recouvrée sur les tarifs de ces services.

L'entente ENFIA visait à fournir une solution provisoire au problème du calcul des frais d'interconnexion payables par les télécommunicateurs interurbains en attendant la mise en place d'un système plus intégré. Dans le cadre de son enquête sur la structure du marché du SICT/WATS (dossier 78-72), la FCC a examiné la possibilité d'imposer des frais d'accès à l'échelle nationale. En 1983, elle rendit à cet égard une décision majeure visant à modifier radicalement les principes de tarification des services téléphoniques.[28] L'hypothèse de départ de la FCC était la suivante : l'ensemble des coûts non sensibles au trafic liés à l'utilisation du réseau local et attribués à la juridiction interétat devraient éventuellement être recouvrés au moyen de frais de ligne d'abonné (FLA). La FCC déclara que son plan se fixait quatre objectifs, à savoir 1) supprimer la discrimination existant au niveau des tarifs des services interurbains en réduisant les subventions; 2) promouvoir l'utilisation efficace et économique des réseaux locaux et interurbains en alignant davantage les prix sur les coûts; 3) empêcher l'évitement, mécanisme non rentable; et 4) préserver l'universalité du service.

On a estimé que la contribution demandée aux télécommunicateurs interurbains, en plus du coût réel de l'interconnexion sensible au trafic, avait donné lieu, pour les services interurbains, à des prix artificiellement élevés par rapport au coût réel de la prestation du service. Du point de vue de la FCC, le prix artificiellement élevé des services interurbains constituait, pour les grands utilisateurs de télécommunications une incitation à l'évitement des installations locales d'interconnexion et, ainsi, au paiement de la contribution au titre des coûts non

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[28] FCC, CC Docket 78-72, "In the Matter of MTS and WATS Market Structure," Third Report and Order (known as the Access Charge Order), 93 FCC 2d 241 (1983).

sensibles au trafic. La FCC redoutait, qu'à long terme, l'extension du phénomène d'évitement ait pour effet de réduire les revenus nécessaires au recouvrement de la contribution perçue au titre des coûts des services locaux non sensibles au trafic et, en outre, de rendre vains les investissements réalisés par les compagnies de téléphone (au niveau, notamment, des installations antérieurement nécessaires à l'acheminement et à la commutation du trafic interurbain). De l'avis de la FCC, une telle réduction des revenus et une telle improductivité des investissements ne pouvaient que coûter plus cher aux abonnés que n'importe quelle économie réalisée par l'évitement et, par conséquent, ne pouvait que mettre en danger l'universalité du service.

Le plan de frais d'accès de la FCC comportait plusieurs éléments, notamment :

1) des frais de ligne abonné (FLA) : il s'agit de frais de lignes payables par tous les abonnés des services téléphoniques de résidence et d'affaires, dans le but de recouvrer les coûts non sensibles au trafic imputables au service interétats;

2) des frais de ligne commune des télécommunicateurs (FLCT) : il s'agit des frais imposés à tous les télécommunicateurs interurbains dans le but de recouvrer tous les coûts non sensibles au trafic et non récupérés auprès des abonnés;

3) des frais d'accès spéciaux : il s'agit de frais pour les services et installations réservés à un abonné particulier;

4) le supplément : il s'agit d'un supplément payable par AT&T en contrepartie de la qualité supérieure d'accès dont elle bénéficie par rapport à ses concurrents (frais provisoires);

5) des frais sensibles au trafic : il s'agit de frais payables par tous les télécommunicateurs interurbains interétats.

Les frais de ligne d'abonné (FLA) sont un montant mensuel fixe par ligne d'accès d'abonné, qui a pour objet de recouvrer les coûts non sensibles au trafic attribués à la juridiction fédérale. Les FLA ne couvrent pas tous les coûts non sensibles au trafic attribués à la juridiction fédérale; le reste vient des frais de ligne commune des télécommunicateurs, dont il est question ci-dessus. Chaque compagnie de téléphone locale facture et conserve les FLA.

La FCC a établi trois types distincts de FLA pour : a) les abonnés du service de résidence et du service de ligne individuelle d'affaires; b) les abonnés du service multiligne d'affaires et de PBX; et c) les abonnés de lignes Centrex installées avant le 27 juillet 1983. Le tableau 3-2 donne un résumé des modifications passées et futures à ces frais. Les FLA applicables aux abonnés du service de résidence/service de ligne individuelle d'affaires ont débuté à 1 $ par ligne par mois, et doivent passer à un maximum de 3,50 $ en 1989. Les abonnés du service multiligne d'affaires et de lignes Centrex installées après le 27 juillet 1983 doivent payer des frais maximaux fixes de 6 $ par ligne par mois. (Les abonnés dans certaines juridictions paient moins que le montant maximal de 6 $ dans le cas où l'ensemble des besoins en revenus interétats par ligne sont moins élevés.) Les

TABLEAU 3-2

Frais de ligne d'abonnés mensuels

(en dollars US)

DATE	SERVICE DE RÉSIDENCE ET SERVICE DE LIGNE INDIVIDUELLE D'AFFAIRES	SERVICE D'AFFAIRES MULTILIGNE*	CENTREX**
25 mai 1984	0,00 $	6,00 $ max.	2,00 $
1er juin 1985	1,00 $	6,00 $ max.	2,00 $
1er juin 1986	2,00 $	6,00 $ max.	3,00 $
1er juillet 1987	2,60 $	6,00 $ max.	4,00 $
1er décembre 1988	3,20 $	6,00 $ max.	5,00 $
1er avril 1989	3,50 $	6,00 $ max.	6,00 $

* Les frais actuels sont établis selon les coûts des compagnies individuelles. Ils se situaient à 4,99 $ en moyenne en 1984 et se chiffrent actuellement à 5,12 $ en moyenne.

** Applicables aux lignes Centrex installées avant le 27 juillet 1983. Les lignes Centrex installées subséquemment sont facturées comme s'il s'agissait du service d'affaires multiligne.

SOURCE: Communications avec la Federal Communications Commission (FCC), Industry Analysis Division.

frais applicables aux lignes Centrex installées avant le 27 juillet 1983 ont débuté à 2 $ par ligne par mois en 1984, et passeront à un maximum de 6 $ en 1989.

Les frais de ligne commune des télécommunicateurs (FLCT) sont imposés à tous les télécommunicateurs interurbains par minute d'utilisation, afin de recouvrer les coûts non sensibles au trafic non récupérés au moyen des FLA. Le tableau 3-2 trace l'historique des FLA et le tableau 3-3 celui des FLCT à partir de leur mise en oeuvre en janvier 1988. Les tarifs exigés témoignent de la hausse des FLA ainsi que de l'utilisation accrue de l'interurbain et des répercussions de l'égalité d'accès (c'est-à-dire, l'élimination progressive des rabais d'accès pour les télécommunicateurs), comme de la réduction des taux de rendement autorisés pour les compagnies de téléphone locales. Les frais d'utilisation pour appels de départ ont également été réduits dans certains cas, afin d'atténuer le risque d'évitement local.

La FCC a instauré des frais d'accès spéciaux au titre des services et installations réservés à un abonné particulier, généralement pour l'accès non commuté. Les télécommunicateurs interurbains utilisent généralement les installations d'accès dans le cas de services de lignes privées et hors circonscription qu'ils dispensent à leurs abonnés. Ces frais peuvent varier d'une compagnie à l'autre.

Le supplément se voulait une mesure provisoire imposée à AT&T du fait que cette dernière obtenait un accès de qualité supérieure par rapport aux autres télécommunicateurs interurbains interétats. Ce supplément disparaît à mesure que l'égalité d'accès est offerte à tous les télécommunicateurs interurbains, circonscription par circonscription, partout aux États-Unis. Les autres télécommunicateurs interurbains interétats obtiennent un rabais de 55 % sur leurs FLCT, le cas échéant. Le rabais disparaît dès qu'il y a égalité d'accès, même si le télécommunicateur décide d'utiliser une autre forme d'accès.

Les frais sensibles au trafic sont imposés aux télécommunicateurs interurbains par les compagnies de téléphone locales afin de recouvrer les coûts permanents de prestation du trafic interurbain entre les abonnés et le point d'occupation du télécommunicateur interurbain. Ces frais visent la transmission, la commutation, la facturation, la perception et l'assistance-annuaire, et chaque compagnie de téléphone locale en fixe le montant en fonction de la causalité des coûts.

Avant la mise en oeuvre du plan de frais d'accès de la FCC, la Division des méthodes de ventilation et de partage des revenus jouait un rôle semblable. AT&T appliquait cette méthode et elle était également responsable de la préparation des tarifs interurbains. Lorsque le nouveau régime de frais d'accès de la FCC a été instauré, l'institution d'un nouvel administrateur s'imposait du fait que le régime mettait en cause un certain nombre de télécommunicateurs interurbains offrant des services interétats. La National Exchange Carrier Association (NECA) a été constituée à cette fin. Les télécommunicateurs interurbains interétats versent des FLCT à la NECA qui, elle, les répartit entre les compagnies de téléphone locales selon leurs coûts non sensibles réels. Au départ, toutes les compagnies de téléphone étaient tenues de participer au groupement des coûts communs administrés par la NECA. Récemment, toutefois, la FCC a créé un mécanisme de rechange en

TABLEAU 3-3

Frais de ligne commune des télécommunicateurs

(par minute d'utilisation)

DATE	APPEL DE DÉPART	APPEL D'ARRIVÉE
25 mai 1984	0,0524 $	0,0524 $
1er janvier 1985	0,0543 $	0,0543 $
1er juin 1985*	0,0479 $	0,0479 $
1er janvier 1986	0,0433 $	0,0433 $
1er juin 1986	0,0304 $	0,0433 $
1er janvier 1987	0,0155 $	0,0433 $
1er juillet 1987	0,0069 $	0,0433 $
1er janvier 1988	0,0000 $	0,0414 $

* Avant le 1er juin 1985, les frais sont passés à 0,0471 $ pour une courte période afin de mettre en oeuvre les rabais ordonnés par la FCC.

SOURCE: Economics and Technology, Inc., "Alternative Approaches to the Recovery of Access Costs: A Review of the U.S. Situation," étude commandée par le ministère de la Culture et des Communications de l'Ontario, March 1988, p. 31.

vertu duquel les compagnies de téléphone peuvent se retirer de cette mise en commun.

Il y a lieu de noter que l'implantation et la mise en oeuvre du plan de frais d'accès de la FCC ne se sont pas faits sans controverse. Par exemple, la décision de la FCC selon laquelle tous les frais non sensibles au trafic attribués à la juridiction interétats seraient éventuellement recouvrés des abonnés de téléphone au moyen des FLA signifie que tous les abonnés, qu'ils fassent ou reçoivent des appels interurbains ou non, paient un tarif mensuel fixe plus élevé. Les groupes de consommateurs et diverses commissions de réglementation d'état se sont fortement opposés à cette dérogation à la méthode traditionnelle d'établissement du prix (valeur du service) des services téléphoniques et à ses répercussions possibles sur l'universalité du service téléphonique à prix abordables. Ils ont communiqué leurs préoccupations à leurs représentants élus et il en est résulté le dépôt de projets de loi fédéraux en vertu desquels la FCC aurait dû modifier ou retirer son plan de frais d'accès.[29] En réponse à ces initiatives, la FCC a réexaminé son ordonnance relative aux frais d'accès et elle a réduit les frais mensuels initiaux de 2 $ à 1 $, et a reporté d'un an la mise en oeuvre des FLA.[30]

3.1.3 Structure du marché des LATA

Le démantèlement d'AT&T et la création de 161 LATA ont été un événement-clé qui a déterminé la structure actuelle de l'industrie du téléphone et la nature de la concurrence aux États-Unis. Suite au démantèlement d'AT&T, les compagnies exploitantes de Bell, c'est-à-dire les compagnies de téléphone locales, ont été autorisées à offrir des services locaux et interurbains à l'intérieur de chacune des LATA respectivement desservies par elles, mais non d'une LATA à l'autre. Il en est ainsi même si les LATA sont voisines, et même si le service local est fourni de part et d'autre des limites d'une LATA par la même compagnie de téléphone locale. AT&T de même qu'aucun autre télécommunicateur interurbain, n'est assujettie aux mêmes restrictions et elle peut livrer concurrence sur les marchés interLATA et même intraLATA, dans les états où la réglementation le permet.

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[29] H.R.4102, adopté par la U.S. House of Representatives, le 10 novembre 1983 (modifié par H.R.4295); et S.1600, approuvé par le US Senate Committee en septembre 1983, puis reporté. L'adoption de ces projets de loi n'a ni interdit entièrement ni retardé sensiblement la mise en oeuvre des frais de ligne d'abonnés du service de résidence et de ligne individuelle d'affaires.

[30] FCC, "Detailed Analysis of H.R. 4102," soumis au House Committee on Energy and Commerce, le 5 décembre 1983. Le rapport résume la position de la FCC sur le projet de loi et examine les raisons données par la FCC à l'égard de son Plan de frais d'accès. Le FCC CC Docket 78-72, "In the Matter of MTS and WATS Market Structure," First Reconsideration Order, 97 FCC 2d 682 (1983) modifiait l'Access Charge Order initiale - Third Report and Order, 93 FCC 2d 241 (1983) - en ordonnant une transition plus progressive aux frais de ligne d'abonnés pour les abonnés du service de résidence et du Centrex public; la Second Reconsideration Order, 97 FCC 2d 834 (1984) a reporté à juin 1985 les frais de ligne d'abonnés pour les services de résidence et de ligne individuelle d'affaires.

La Modification apportée à la décision finale du juge Greene ne s'applique pas aux compagnies de téléphone indépendantes ni aux deux compagnies du Bell System n'appartenant pas en majorité à AT&T, à savoir, Southern New England Telephone et Cincinnati Bell. Celles-ci ont le choix de faire affaire directement avec les télécommunicateurs interurbains ou bien de s'associer avec une société exploitante de Bell voisine.

La majorité des LATA englobent des régions géographiques qui dépassent la zone d'appel locale, ou même régionale, desservie par un central. Douze états sont classés comme ayant une seule LATA; deux autres en ont plus d'une. Cela est illustré par le graphique 3-4, qui représente la répartition nationale des LATA. Par conséquent, chaque compagnie de téléphone locale assure une certaine partie du trafic interurbain intraLATA de courte distance, en plus du trafic local. En général, une LATA n'englobe pas plus d'un grand centre urbain, si bien que le trafic interurbain à l'intérieur d'une LATA est assimilable au trafic local, au niveau de son degré de dispersion et de son manque relatif de concentration sur une voie d'acheminement donnée.

De plus, les compagnies de téléphone locales se chargent d'assurer l'accès, dans l'ensemble d'une LATA donnée, entre les équipements terminaux des abonnés et les points d'occupation des télécommunicateurs interurbains. C'est là une répercussion très importante du démantèlement d'AT&T et de la division du territoire en LATA, dans la mesure où tous les abonnés d'une LATA donnée, et pas simplement ceux qui se trouvent dans la zone d'appel locale des grands centres, peuvent profiter des avantages de la concurrence interLATA. Il suffit à une compagnie concurrente d'établir un seul point d'occupation au sein d'une LATA pour permettre à tous les abonnés de cette LATA d'accéder au service interLATA qu'elle offre. Il est évident que les compagnies concurrentes peuvent avoir plus d'un point d'occupation au sein d'une LATA : tout dépend du montant des coûts et des tarifs de commutation et de transmission, qui peuvent être sensibles à la distance, que les compagnies de téléphone locales exigent pour l'interconnexion.

3.1.4 Structure de la réglementation

En vertu d'un système de réglementation à deux paliers (palier fédéral, d'une part, et palier des états, d'autre part), la FCC et les organismes de réglementation des états se répartissent, aux États-Unis, la tâche de réglementer la concurrence. La FCC est responsable des services interurbains interétats et des services d'accès connexes. Dans la majorité des cas, cela signifie qu'elle est responsable des services interétats interLATA; il arrive, cependant, que les LATA débordent les frontières d'un état, et c'est alors la FCC qui réglemente la portion interétats intraLATA. D'autre part, les organismes de réglementation des états sont chargés de tous les services intraétat, et notamment des services locaux offerts par les compagnies de téléphone locales et des services intraétat interLATA et intraétat intraLATA (qu'ils soient offerts par des compagnies de téléphone locales ou par des télécommunicateurs interurbains).

L'entrée en concurrence, dans le service interurbain au niveau des états, est un phénomène beaucoup plus récent que la concurrence interétats. Le tableau 3-5 constitue un résumé de la situation de la concurrence et de la réglementation

Graphique 3-4

Carte des LATA aux États-Unis (zones locales d'accès et de transport)

* La numérotation des LATA correspond à celle qui se trouve dans le document AT&T Communication Inc., Tarif 6. Les circonscriptions isolées en liaison avec les LATA se trouvant en-dehors des états ne figurent pas sur la carte. Hawaii (LATA 834) et l'Alaska (LATA 832) sont deux états à LATA unique desservis par des compagnies de téléphone indépendantes. D'autres LATA non illustrées sont affectées à Porto Rico (LATA 845), aux îles Vierges (LATA 822) et à Midway/Wake (LATA 8;36).

Source: Economics and Technology, Inc., étude commandée par le Groupe de travail, figure 1.3.

TABLEAU 3-5

Situation de la concurrence et de la réglementation intraétat au 1er novembre 1987

ETAT	CONCURRENCE			DEGRE DE REGLEMENTATION		
	INTER-LATA	INTRA-LATA				
		TÉLÉCOMMUNICATEURS INTERURBAINS	REVENDEURS	AT&T	AUTRES TÉLÉCOMMUNICATEURS	REVENDEURS
Alabama	Oui	Non	Oui	A,R,P	A,R,P	A,P
Alaska*	n/a	En cours	En cours	n/a	P	P
Arizona	Oui	En cours	En cours	B,R	B,R	D
Arkansas	Oui	Non	Oui	A,R,P	A,P	A,P
Californie	Oui	En partie (1)	Non	A,R,P	D	D
Colorado	Oui	Oui	Oui	A,P	A,P	D
Connecticut*	n/a	En cours (2)	En cours	n/a	P	P
Delaware*	n/a	En cours	En cours	P	P	P
Floride	Oui	En partie (3)	Oui	B,R	D	D
Georgie	Oui	Non	Oui	B,P	A,R,P	D
Hawaï*	n/a	En partie (4)	Non	n/a	A	n/a
Idaho	Oui+	Oui	Oui	C,R,P	P	D,P
Illinois	Oui	Oui	Oui	P	P	P
Indiana	Oui	Non	Oui	A,R,P	A,P	A,P
Iowa	Oui	Oui	Oui	A,R	A,R(5)	A,R(5)
Kansas	Oui	En cours	En cours	B,R	D	D
Kentucky	Oui	Non	Oui	A,R,P	D	D
Louisiane	Oui	En partie (6)	Oui	B,R	D	D
Maine*	n/a	En cours	Oui	P	P	A,P
Maryland	Oui	Oui	Oui	D	D	D
Massachusetts	Oui	Oui	Oui	A,R	A	A
Michigan	Oui	Oui	Oui	B,R,P	D	D
Minnesota	Oui	Oui	Oui	D(7)	D(7)	D(7)
Mississippi	Oui	Non	Oui	B,R	B	D
Missouri	Oui	Oui	Oui	B,R,P	B,P	B,P
Montana	Oui	Oui	Oui	C,R	D	D
Nebraska	Oui	Oui	Oui	D	D	D
Nevada	Oui	En cours	En cours	D	D	D
New Hampshire*	n/a	Aucune mesure	Aucune mesure	n/a	n/a	n/a
New Jersey	Oui	Non	Oui	B,R	B	D
New Mexico*	n/a	Oui	Oui	A,R	A	A
New York	Oui	Oui	Oui	B,R,P	C,P	C,P
Caroline du nord	Oui	Non	Oui	C	D	D
Dakota du nord	Aucune mesure	Non	Oui	n/a	n/a	D
Ohio	Oui	Oui	Oui	B,P	B,P	B,P
Oklahoma	Oui	Non	Oui	A(8)	A(8)	D,P
Oregon	Oui	Oui	Oui	B	B	D
Pennsylvanie	Oui	Oui	Oui	A(9)	A(9)	D
Rhode Island*	n/a	Aucune mesure	Aucune mesure	n/a	n/a	n/a
Caroline du sud	Oui	En partie (10)	Oui	C	C	C
Dakota du sud*	n/a	Non	Oui	n/a	n/a	D,P
Tennessee	Oui	En cours	Oui	C	D	D
Texas	Oui	Oui	Oui	B,R	D	D
Utah*	n/a	Non	Oui	n/a	n/a	D
Vermont*	n/a	Oui	Oui	n/a	D	D
Virginie	Oui	Non	Oui	D	D	D
Washington	Oui	Oui	Oui	D	D	D
Virginie de l'ouest	Oui	En cours	En cours	D	D	D
Wisconsin	Oui	En cours	Oui	A,R,P	A,P	D
Wyoming*	n/a	En cours	Oui	n/a	n/a	A

* L'approbation de principe a été obtenue mais les compagnies concurrentes concernées ne sont pas encore accréditées

AT = Autres télécommunicateurs: télécommunicateurs autres qu'AT&T et exploitant leurs propres installations

* Etat comportant une seule LATA

n/a = Non applicable

NOTES:

A - Aucune souplesse au niveau des prix: tout changement tarifaire doit être approuvé au préalable par l'état

B - Tarifs par bandes: les compagnies sont libres de modifier leurs tarifs à l'intérieur des limites maximales et minimales

C - Prix maximaux seulement: les compagnies sont libres de fixer leurs tarifs comme elles l'entendent en deçà du tarif maximal

D - Souplesse totale au niveau des prix des heures de pointe: les compagnies peuvent modifier leurs prix sans révision préalable par l'état

F - Prix minimaux seulement: les compagnies peuvent fixer leurs tarifs comme elles l'entendent, au-dessus du prix minimum

P - Les délibérations en cours peuvent entraîner, à l'avenir, des changements de réglementation

R - Le taux de rendement est prescrit par l'état

I - Le service est disponible à un tarif spécifique à tel ou tel état

U - La MCI est autorisée à offrir un service intraétat non tarifé, ou des tarifs spécifiques à tel ou tel état

W - Demande de tarif en instance d'approbation

X - Demande de tarif suspendue

Y - S'applique à Megacom seulement et non à Megacom 800.

(1) En Californie, la concurrence intra-LATA se limite aux services de transmission de données Y-1

(2) Dans le Connecticut, le registre des télécommunicateurs intercirconscription porte uniquement sur les services de lignes directes et sur les services revendus

(3) En Floride, la concurrence des télécommunicateurs intercirconscription est autorisée entre "mini-LATA"

(4) A Hawaï, la concurrence est autorisée uniquement pour les services de transmission de données par lignes directes

(5) Dans l'Iowa, les entreprises de télécommunications ayant moins de 15.000 abonnés ne sont pas réglementées

(6) En Louisiane, seules les compagnies de téléphone et non les télécommunicateurs exploitant leurs propres installations peuvent se faire concurrence sur le marché intra-LATA

(7) Dans le Minnesota, la Commission des services publics (PUC) peut ordonner une réduction et un remboursement, pendant une durée de 10 mois après la date d'entrée en vigueur

(8) Dans l'Oklahoma, l'état a 30 jours pour opposer son veto à un changement tarifaire; l'inaction équivaut à une approbation

(9) Les modifications tarifaires en-deçà du niveau limite sont décidées dans un délai de 30 jours; il est rare qu'elles soient refusées

(10) Cela s'applique à un télécommunicateur qui avait commencé à offrir un service SC avant la création des LATA

SOURCE: State Telephone Regulation Report, "Status of Intrastate Competition and Regulation (as of November 1, 1987)," 5 November 1987, tableau à la page 6.

intraétat en novembre 1987. La plupart des états multi-LATA ont autorisé la concurrence sur le marché interLATA et ont adopté un système de frais d'accès des télécommunicateurs largement inspiré du plan de la FCC. Dans certains états, les organismes de réglementation ont commencé à mettre en question "le monopole naturel" des marchés intraLATA et à envisager, ou même permettre, un certain degré de concurrence intraLATA. La conception même des LATA n'ayant pas favorisé l'apparition de zones de concentration du trafic interurbain, l'évolution de la concurrence intraLATA a néanmoins été limitée dans la plupart des régions.

3.1.5 Nouveaux venus sur le marché des services interurbains

À l'heure actuelle, les entreprises concurrentes qui fournissent des services interurbains aux États-Unis se regroupent au sein des catégories suivantes :

1) les télécommunicateurs interurbains qui offrent un service à l'échelle nationale à partir de leurs propres installations;

2) les télécommunicateurs qui exploitent leurs propres installations au niveau régional; et

3) les revendeurs.

Vers la fin de 1986, 40 % des LATA aux É.-U. étaient desservies par au moins quatre télécommunicateurs interurbains exploitant leurs propres installations. Soixante-quinze pour cent étaient desservies par au moins trois télécommunicateurs et 49 % par au moins deux télécommunicateurs. Seules, 11 % étaient exclusivement desservies par AT&T.

Sur plus de 500 télécommunicateurs interurbains, pour la plupart des revendeurs, qui offrent à l'heure actuelle des services interurbains aux É.-U., les principaux intervenants sont les trois principales entreprises nationales de télécommunications exploitant leurs propres installations, à savoir AT&T, MCI et US Sprint. Comme nous l'avons vu, c'est depuis son démantèlement qu'AT&T est devenue concurrentielle. Bien que son envergure soit le cinquième de ce qu'elle était auparavant, elle continue de dominer le marché des services interurbains. Ses atouts sont liés à sa taille, au fait qu'elle a longtemps été "la compagnie de téléphone", à son image de fournisseur de services fiables et de haute qualité et à sa connaissance approfondie du marché. Quant à la compagnie MCI, elle se trouve au premier rang de la concurrence sur le marché interurbain aux États-Unis. Depuis sa création, vers la fin des années 1960, elle s'est transformée de modeste fournisseur de services de lignes directes concurrentielles qu'elle était, en une compagnie de plusieurs milliards de dollars de chiffre d'affaires, offrant des services de communications sur les marchés intérieur et international. Grâce à des investissements considérables dans des installations de transmission, elle possède aujourd'hui un réseau qui s'étend sur la plus grande partie des États-Unis. Quant à US Sprint, cette compagnie a vu le jour le 1er juillet 1986, suite à la fusion des opérations de téléphonie vocale et de communication de données de la filiale US Telecom de United Telecommunications, Inc. avec celles de GTE Sprint et de GTE Telenet (un réseau de transmission de données à valeur ajoutée). Cette fusion

permit de regrouper l'énorme clientèle commerciale de US Telecom et la clientèle encore plus nombreuse, mais surtout résidentielle, de GTE Sprint.[31] Plusieurs autres télécommunicateurs exploitant des installations beaucoup plus petites viennent s'ajouter aux trois principales entreprises nationales.

Dans la deuxième catégorie, on trouve un nombre croissant de télécommunicateurs interurbains exploitant en partie leurs propres installations et desservant un marché régional. Citons, par exemple, ALC Communications Corporation (Allnet Communications Services, Inc. et, jadis, Lexitel), ITT Communications Services Inc., United States Transmission Systems, Inc. (ITT-USTS) et RCI Corporation. Depuis le démantèlement, on a également assisté à une augmentation marquée du nombre des télécommunicateurs qui offrent leurs services à d'autres télécommunicateurs. Citons, entre autres, le National Telecommunications Network.[32] Ces compagnies font office de grossistes régionaux et s'attachent à offrir leurs services aux distributeurs de services de transmission.

Pour ce qui est des revendeurs, la dernière catégorie, il s'agit de compagnies qui louent auprès d'autres télécommunicateurs une capacité de commutation et de transmission en gros, pour la revendre à des abonnés individuels ou à des groupes d'abonnés, à des prix suffisamment élevés pour leur permettre de réaliser un profit, mais néanmoins inférieurs aux tarifs pratiqués par les télécommunicateurs exploitant leurs propres installations. Le marché de la revente a été ouvert à la concurrence en juin 1981, suite à la décision de la FCC d'autoriser la revente pour permettre la prestation de services comparables au SICT et au WATS.[33]

Vers la fin de 1982, un total de 35 revendeurs avaient pénétré le marché de la téléphonie vocale interurbaine; à la fin de 1984, leur nombre était de 439. À la fin de l'année 1985, le nombre des revendeurs chuta à moins de 300, en grande partie à cause des frais d'accès plus élevés pour les télécommunicateurs et des tarifs interurbains moins élevés. En 1986, cependant, leur nombre était de 507 et en mars 1987, de 554.

Il existe deux types de revente : l'arbitrage et la revente secondaire. Dans le présent rapport, arbitrage est rattaché à la pratique qui consiste à acheter en gros et à vendre au détail; c'est un mécanisme qui dépend essentiellement d'un marché instable. La pratique de l'arbitrage tient surtout aux différences de prix qui

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[31] GTE Corp., Press Release, 20 juillet 1988. GTE a annoncé que son conseil d'administration a approuvé une entente permettant à la United Telecommunications Inc. d'acheter des intérêts majoritaires dans US Sprint. GTE a déclaré que la transaction devrait se terminer le 3 janvier 1989 ou dès que toutes les approbations nécessaires auront été obtenues.

[32] Les membres comprennent Consolidation Network, LDX Interstate, Litel, MicroTel, Southern Net, Southland Fiber Network et Williams Telecommunications.

[33] FCC, "In the Matter of Regulatory Policies Concerning Resale and Shared Use of Common Carrier Domestic Public Switched Network Services," Report and Order, 48 RR 2d 1027 (1981).

existent entre les services SICT/WATS des télécommunicateurs exploitant leurs propres installations, selon qu'ils sont fournis en gros ou sur une base individuelle. La suppression des rabais consentis sur les frais d'accès des télécommunicateurs a eu pour effet de répercuter sur les revendeurs des coûts d'accès plus élevés et, par conséquent, de réduire leurs marges de profit. La reprise récente des activités de revente est imputable à la découverte par les revendeurs de certains créneaux dans les régions relativement moins bien desservies (du point de vue du nombre de concurrents), ainsi qu'à l'utilisation en gros des installations des télécommunicateurs autres qu'AT&T, et notamment celles des grossistes régionaux dont nous avons parlé plus tôt, ce qui représente des marges de profit plus attrayantes. En outre, bon nombre de revendeurs se transforment en gestionnaires de réseaux très complexes et beaucoup plus efficaces dans la commercialisation de leurs services, en particulier au niveau local. Ces facteurs ont contribué à la survie et à la croissance de ce segment du marché.

L'autre type de revente fait intervenir des revendeurs secondaires, capables de tirer profit de la capacité inutilisée de grosses compagnies. Ce type de revente échappe à l'incertitude des fluctuations de tarifs pratiquées par les télécommunicateurs exploitant leurs propres installations. En fait, le revendeur secondaire se charge surtout de commercialiser et de vendre, en leur nom, la capacité excédentaire des compagnies privées, moyennant un pourcentage des profits.

3.1.6 Performance des concurrents selon leur part du marché

La part du marché détenue par la concurrence peut se mesurer de plusieurs façons : a) d'après les revenus des entreprises; b) d'après le nombre de minutes de trafic transporté; et c) d'après le nombre d'abonnés. La performance des principaux concurrents opérant sur le marché des télécommunications est discutée plus loin, à la lumière de ces mesures.

Le tableau 3-6 présente les revenus d'exploitation des télécommunicateurs réalisés sur les services interurbains pour 1986. Ces chiffres indiquent qu'en 1986, à l'exclusion des revenus de l'interurbain des compagnies de téléphone locales, AT&T détenait 72,5 % du marché interurbain, MCI 13,6 % et US Sprint 7,7 %. ALC et Western Union n'en détenaient que 1,8 et 0,1 %, respectivement.

Comme l'indique le graphique 3-7, la part de l'ensemble des revenus interurbains interétats détenue par AT&T a diminué au cours des années (passant de 96 % en 1979 à une valeur estimée à environ 70 % en 1987). Le graphique 3-8 indique que les pertes d'AT&T ont été plus lourdes sur le marché d'affaires que sur le marché résidentiel, sa part du marché des revenus interurbains interétats étant estimée à 75,5 % en 1987 pour le service de résidence, et à 59,4 % pour le service d'affaires. On constate le même déclin relatif si l'on mesure la part du marché détenue par AT&T d'après le nombre de minutes de conversations interurbaines interétats (graphique 3-9).

TABLEAU 3-6

PART DU MARCHÉ -
Revenus d'exploitation réalisés sur les services interurbains en 1986

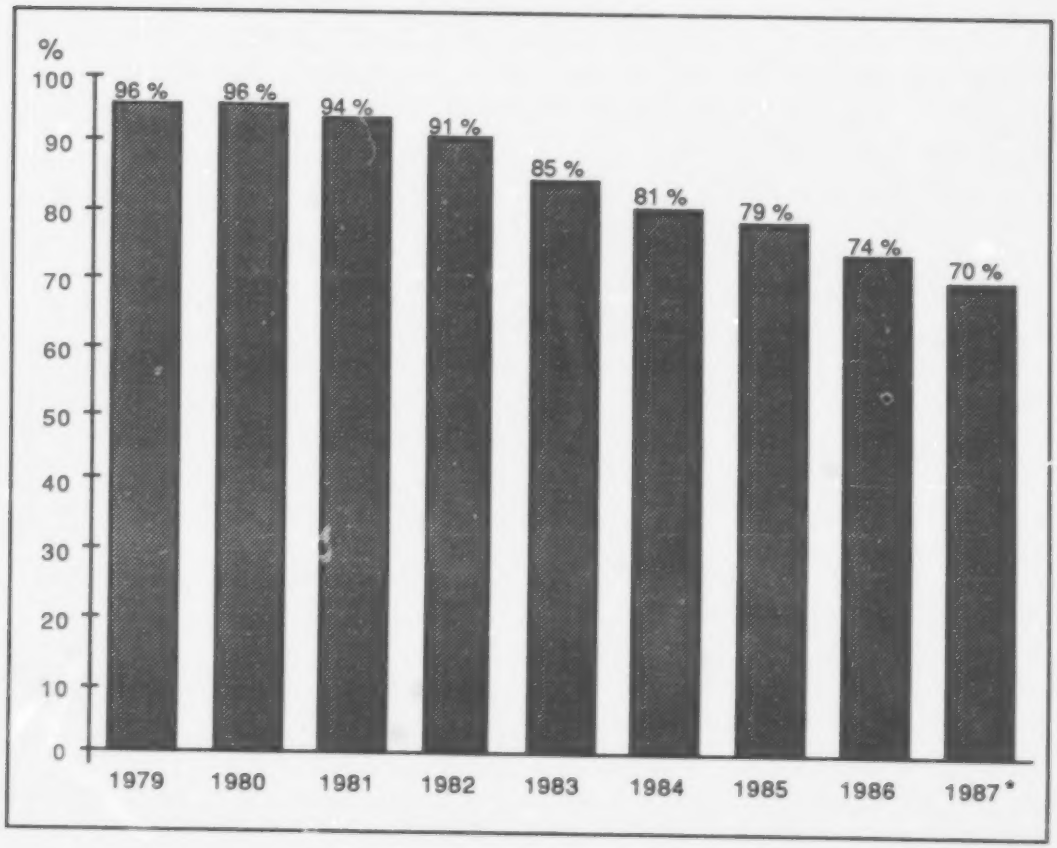
COMPAGNIE	REVENUS NETS (en milliards de dollars)	PART DU MARCHÉ EN POURCENTAGE
AT&T	19,11	72,5 %
MCI	3,59	13,6
US Sprint	2,01*	7,7
Allnet de ALC	0,47	1,8
Western Union	0,06	0,2
Autres télécommunicateurs interurbains	1,1	4,2
Total	26,34	

* Il s'agit des revenus de US Sprint pour le deuxième semestre de 1986 (1,14 milliard de dollars), plus les revenus de US Telecom pour le premier semestre de 1986 (212,4 millions de dollars), et des revenus de GTE Sprint pour le premier semestre de 1986 (661,5 millions de dollars).

SOURCE: Booker Ellis, "Strategic Challenges: Inter-exchange Carriers Navigate a Treacherous Sea," Telephony, 9 March 1987, figure 1.

Graphique 3-7

Part du marché -
Revenus de l'interurbain interétats d'AT&T
de 1979 à 1987

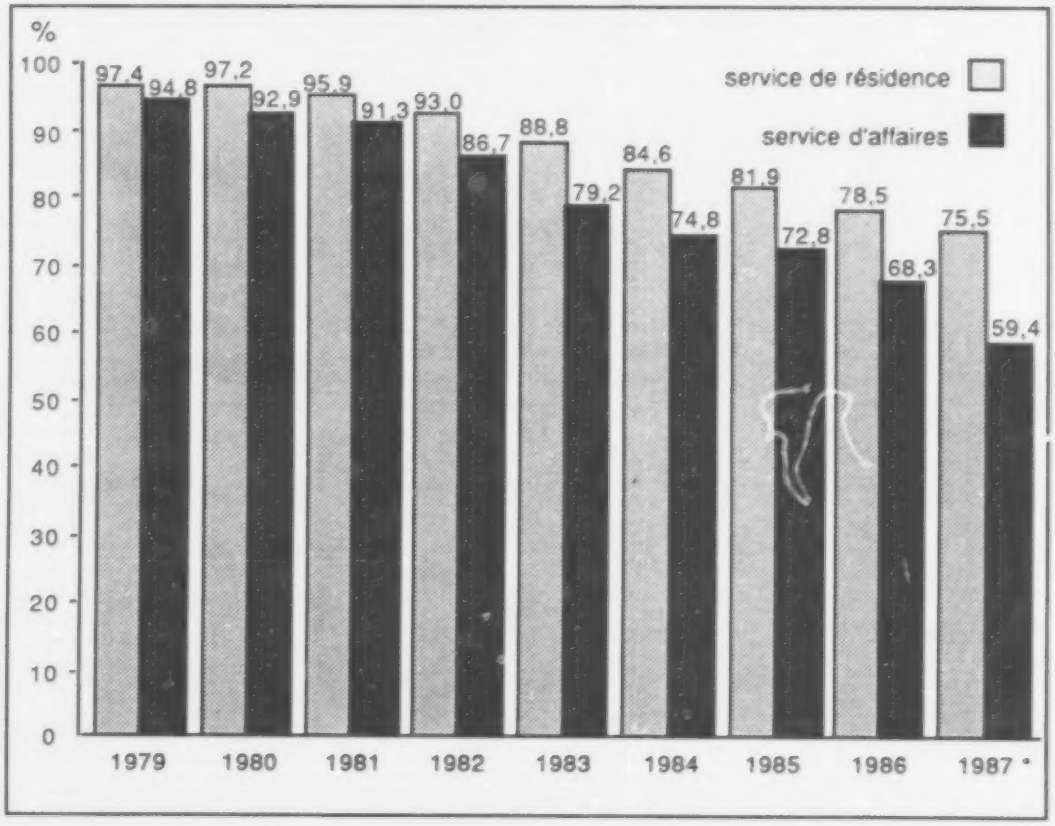


* Estimations.

SOURCE: Porter, Michael E., "Competition in the Long Distance Telecommunications Market: An Industry Structure Analysis," étude commandée par AT&T, réalisée par Monitor Co., Inc., October 1987, figure 3.

Graphique 3-8

Part du marché -
Revenus de l'interurbain provenant
des services de résidence et d'affaires
réalisés par AT&T de 1979 à 1987

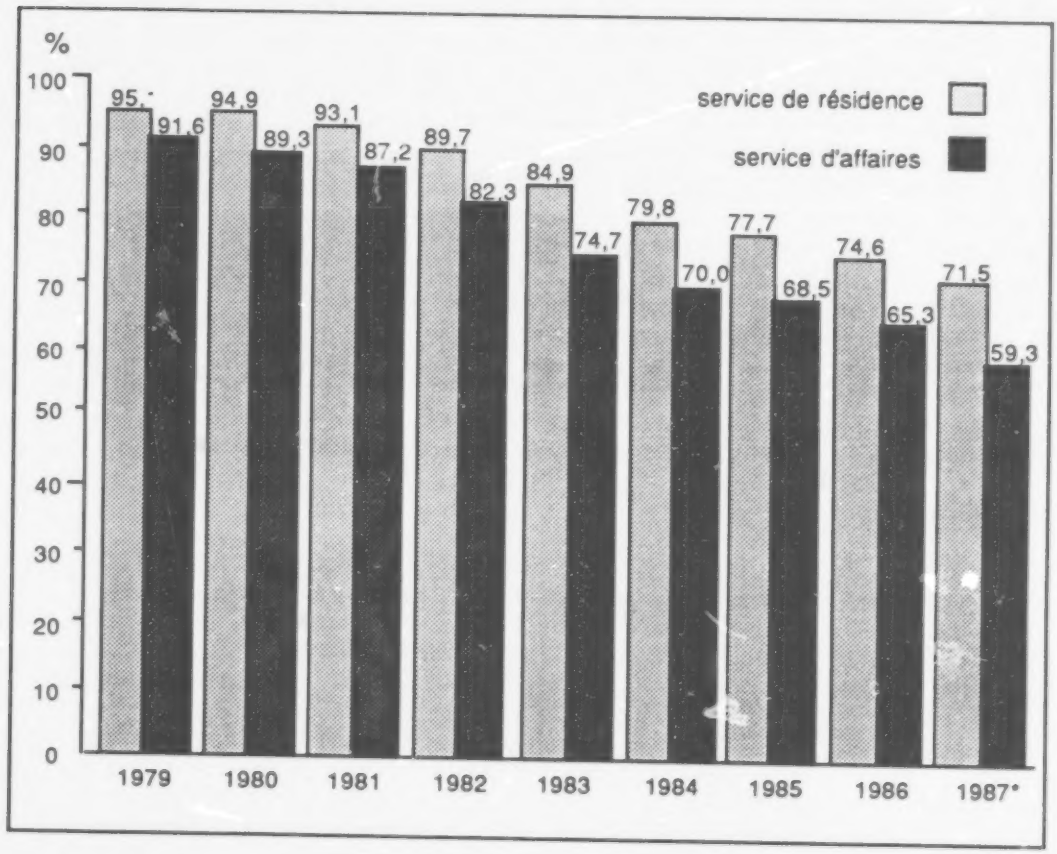


* Estimations.

SOURCE: Porter, Michael E., "Competition in the Long Distance Telecommunications Market: An Industry Structure Analysis", étude commandée par AT&T, réalisée par Monitor Co., Inc., October 1987, figure 5.

Graphique 3-9

Part du marché -
Nombre de minutes de conversations interurbaines assurées par AT&T, services de résidence et d'affaires de 1979 à 1987



* Estimations.

SOURCE: Porter, Michael E., "Competition in the Long Distance Telecommunications Market: An Industry Structure Analysis," étude commandée par AT&T, réalisée par Monitor Co., Inc., October 1987, figure 4.

Le tableau 3-10 présente la part du marché détenue par chaque compagnie, d'après le nombre de ses abonnés. Notons que cette mesure peut être trompeuse, les abonnés pouvant faire affaire avec plusieurs télécommunicateurs et choisir l'un ou l'autre pour tel ou tel type d'appel. Ce tableau révèle cependant que les télécommunicateurs qui concurrencent AT&T ciblent principalement les utilisateurs du service d'affaires.

3.1.7 Performance financière des principaux concurrents

Les tableaux 3-11 à 3-13 présentent la performance financière d'AT&T, MCI et US Sprint ces dernières années. Le total des revenus d'exploitation d'AT&T qui comprennent les ventes de services, les ventes de biens et les revenus de location, s'est maintenu entre 33 milliards de dollars et 34 milliards de dollars, donc relativement constant, au cours de la période 1984 à 1987. Les bénéfices nets se sont accrus pendant cette période, passant de 1,4 milliard de dollars en 1984 à plus de 2 milliards de dollars en 1987. En 1986, cependant, les bénéfices nets ont chuté à 139 millions de dollars à cause d'une réduction d'effectifs et d'une consolidation des installations qui devaient être échelonnées sur plusieurs années (mais qui ont été entièrement imputées à 1986).[34]

Les revenus d'exploitation de MCI sont passés d'environ 2 milliards de dollars à près de 4 milliards de dollars au cours de la même période. Les bénéfices nets ont été positifs trois années sur quatre. En 1986, MCI a subi des pertes de 448 millions de dollars qui sont attribuables à des dépenses d'interconnexion locale qui ont presque doublé de 1985 à 1986, passant de 874 millions de dollars à 1,6 milliard de dollars. En outre, MCI a connu des frais de restructuration et des défalcations de biens s'élevant à 585 millions de dollars en 1986, contre 154 millions de dollars en 1985.[35]

Le total des revenus d'exploitation de US Sprint depuis sa constitution, le 1er juillet 1986, s'est élevé à environ 1,14 milliard de dollars pour le second semestre de 1986 et à 2,6 milliards de dollars en 1987. US Sprint a subi des pertes avant impôts sur le revenu de 357 millions de dollars en 1986 et d'un peu moins de 1,2 milliard de dollars en 1987.[36]

Les investissements en capital, de la part de chacun des trois télécommunicateurs, en vue d'améliorer et d'élargir le réseau des installations à l'échelle nationale, ont été importants. En 1985, 1986 et 1987, AT&T a connu des dépenses de 2,5 milliards, 2,6 milliards et 2,7 milliards de dollars respectivement. Elle entend investir 3 milliards de dollars en 1988 tout comme en 1989.[37] Au cours de la pé-

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[34] AT&T, 1987 Annual Report, p. 30.

[35] MCI Communications Corporation, 1987 Annual Report, p. 1.

[36] United Telecommunications, Inc., 1987 Annual Report, p. 28.

[37] AT&T (voir note 34) p. 24.

TABLEAU 3-10

PART DU MARCHÉ -

Clientèles des services de résidence et d'affaires, 1986

COMPAGNIE	ABONNÉS DU SERVICE D'AFFAIRES (en milliers)	PART DU MARCHÉ EN POURCENTAGE	ABONNÉS DU SERVICE DE RÉSIDENCE (en milliers)	PART DU MARCHÉ EN POURCENTAGE
AT&T	8 000*	77,2 %	80 000*	89,8 %
MCI	850	8,2	5 000	5,6
US Sprint	1 050	10,1	3 650	4,1
Allnet de ALC	155**	1,5	310**	0,4
Autres télécommunicateurs interurbains	309	3,0	117	0,1

* Estimations de Telephony.

** Au 30 septembre 1985.

SOURCE: Booker, Ellis, "Strategic Challenges: Interexchange Carriers Navigate a Treacherous Sea," Telephony, 9 March 1987, figure 2.

TABLEAU 3-11

Performance financière d'AT&T

(en millions de dollars US de l'année courante)

ANNÉE SE TERMINANT LE 31 DÉCEMBRE	1984	1985	1986	1987
Total des revenus d'exploitation*	33 187	34 417	34 087	33 598
Total des dépenses d'exploitation**	30 893	31 431	33 755	30 122
Revenus nets d'exploitation	2 294	2 986	332	3 476
Autres postes de revenus, montant net	525	252	402	334
Intérêts débiteurs	867	692	613	634
Bénéfice avant impôts sur les revenus	1 952	2 546	121	3 176
Impôts créditeurs sur les revenus	582	989	(193)	1 132
Bénéfice net	1 370	1 557	139	2 044

* Inclut les ventes de services, nettes des frais d'accès, les ventes de biens et les revenus de location.

** Inclut les coûts des services, des biens et de la location, de même que les dépenses générales et administratives au titre de la vente, de la recherche et du développement et provision pour restructuration de l'entreprise.

SOURCE: AT&T, Annual Reports.

TABLEAU 3-12

Performance financière de MCI

(en millions de dollars US de l'année courante)

ANNÉE SE TERMINANT LE 31 DÉCEMBRE	1984	1985	1986	1987
Total des revenus d'exploitation*	1 959	2 542	3 592	3 939
Total des dépenses d'exploitation**	1 834	2 490	4 035	3 704
Revenus d'exploitation nets	125	52	(444)	235
Autres postes de revenus, montant net	114	317	168	109
Intérts débiteurs	189	201	187	238
Bénéfice avant impôts sur les revenus	50	168	(463)	106
Impôts créditeurs sur les revenus	(9)	28	(32)	21
Bénéfice avant poste extraordinaire	59	140	(431)	85
Postes extraordinaires	—	(27)	(17)	3
Bénéfice net (Perte)	59	113	(448)	88

* Inclut les revenus de la vente de services de communications.

** Inclut les dépenses au titre de l'interconnexion locale, des lignes de communications louées, des ventes, des dépenses générales et d'exploitation, de l'amortissement et des frais de restructuration, et des défalcations de biens.

SOURCE: MCI Communications Corporation, Annual Reports.

TABLEAU 3-13

Performance financière de US Sprint*

(en millions de dollars US de l'année courante)

	SIX MOIS SE TERMINANT LE 31 DÉCEMBRE 1986	DOUZE MOIS SE TERMINANT LE 31 DÉCEMBRE 1987
Total des revenus d'exploitation	1 141	2 592
Total des dépenses d'exploitation	1 496	3 438
Revenus d'exploitation nettes	(355)	(846)
Défalcation du réseau et autres coûts	--	274
Intérêts débiteurs	2	35
Bénéfice (Perte) avant impôt sur les revenus	(357)	(1 155)
Impôts créditeurs sur les revenus	s/o	s/o
Bénéfice net	s/o	s/o

* US Sprint est le résultat de la fusion, le 1er juillet 1986, de US Telecom, GTE Sprint et GTE Telenet.

SOURCE: United Telecommunications, Inc., 1987 Annual Report.

riode de trois ans se terminant le 31 décembre 1986, MCI a investé au-delà de milliards de dollars dans son système de communications. Toutefois, MCI a budgétisé une réduction de ses dépenses en capital pour qu'elles se chiffrent à moins de 800 millions de dollars en 1988.[38] A la fin de 1986, US Sprint avait investi au total 2,2 milliards de dollars dans son réseau; au 31 décembre 1987, ses investissements globaux dans son réseau s'élevaient à 2,8 milliards de dollars.[39]

3.1.8 Variations tarifaires récentes du service téléphonique

Au cours de la période qui a suivi, aux États-Unis, l'ouverture à la concurrence du marché du SICT/WATS, les tarifs du service téléphonique ont subi des variations marquées. Ces variations tarifaires sont envisagées de deux façons : tout d'abord, nous les présentons en tant qu'indices ajustés à l'Indice des prix à la consommation (IPC) afin de donner une idée de l'impact réel du contrôle exercé; deuxièmement, nous les exprimons en dollars réels (dollars de l'année en cours) afin d'illustrer de quelle façon les abonnés perçoivent réellement les variations tarifaires.

Le graphique 3-14 présente l'indice général des prix du téléphone aux États-Unis, ajusté à l'IPC pour l'ensemble des biens et services, pour les années 1950 à 1987. Ce tableau révèle que la tendance générale à long terme à la baisse, pour l'ensemble des prix réels du téléphone, s'est inversée après 1981 pour se transformer en tendance à la hausse. Cela indique que les prix nominaux des services téléphoniques ont commencé à augmenter plus rapidement que l'IPC.

Plusieurs composantes de l'indice du téléphone subissent également un changement radical (graphique 3-15). Alors que l'indice des prix des services locaux (qui inclut également les FLA) a chuté entre 1977 et 1980, il connaît des hausse depuis lors, ce qui indique de véritables augmentations des prix des services locaux. Depuis 1977, l'indice des prix des services interétats a enregistré des baisses tous les ans, sauf en 1982 et en 1983. Enfin, l'indice des prix intraétat a baissé pendant la période de 1977 à 1981. Après de légères hausses durant plusieurs années, l'indice des prix intraétat est tombé à un niveau inférieur à celui de 1981.

Les variations de prix aux É.-U. peuvent également être examinés en fonction de tarifs déterminés. Le graphique 3-16 présente les prix exigés par AT&T pour un appel de jour interétats de cinq minutes sur des distance variant de 50 à 2 000, de 1977 à 1988. Les prix de ces appels sont restés constants pour la période de 1977 à 1980, mais ils ont ensuite augmenté d'environ 15 à 30 %, selon la tranche de tarification. En 1984, les prix de l'interurbain ont commencé à baisser, pour atteindre des rabais de l'ordre de 35 à 45 % au début de 1988, ici encore selon la tranche de tarification. Le tableau 3-17 donne une comparaison entre les prix du jour, et les prix escomptés de soir et de nuit facturés par AT&T pour un appel semblable en 1977, 1982 et 1988. Les réductions tarifaires de soir et de nuit aux

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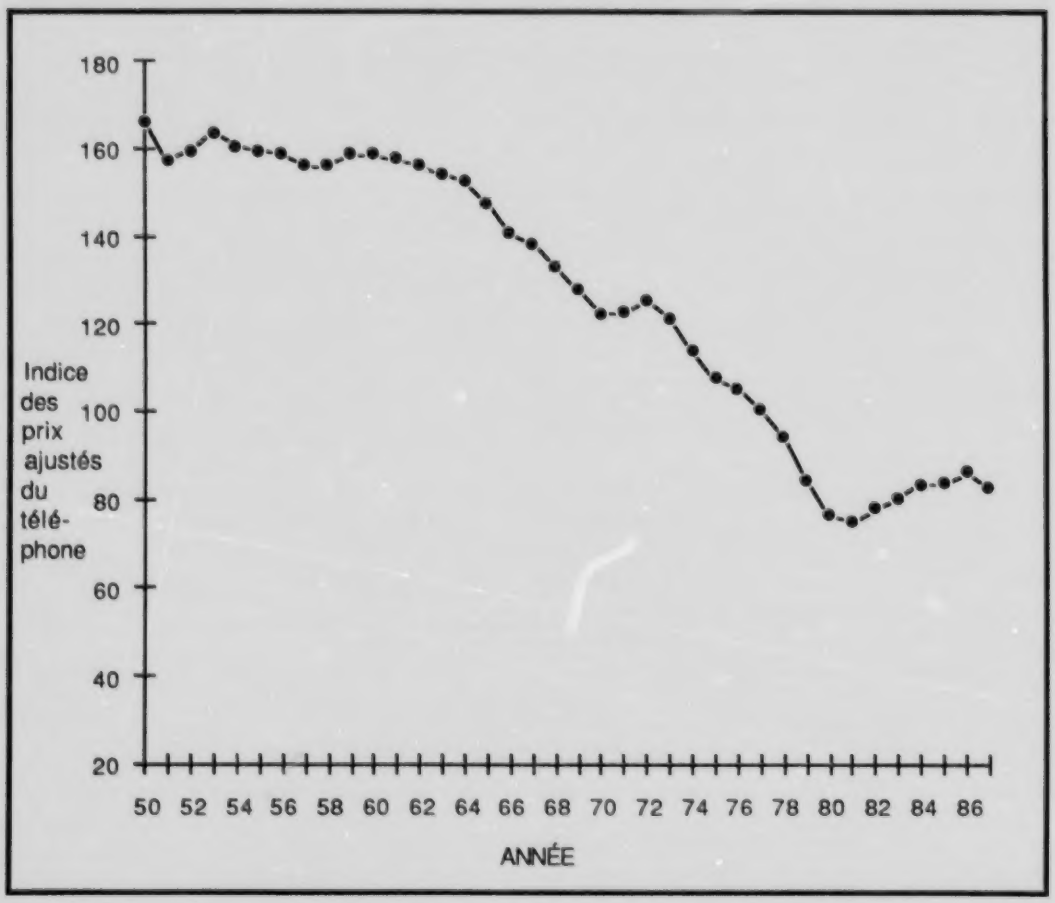
[38] MCI (voir note 35) pp. 23-24.

[39] United Telecom (voir note 36) p. 28.

Graphique 3-14

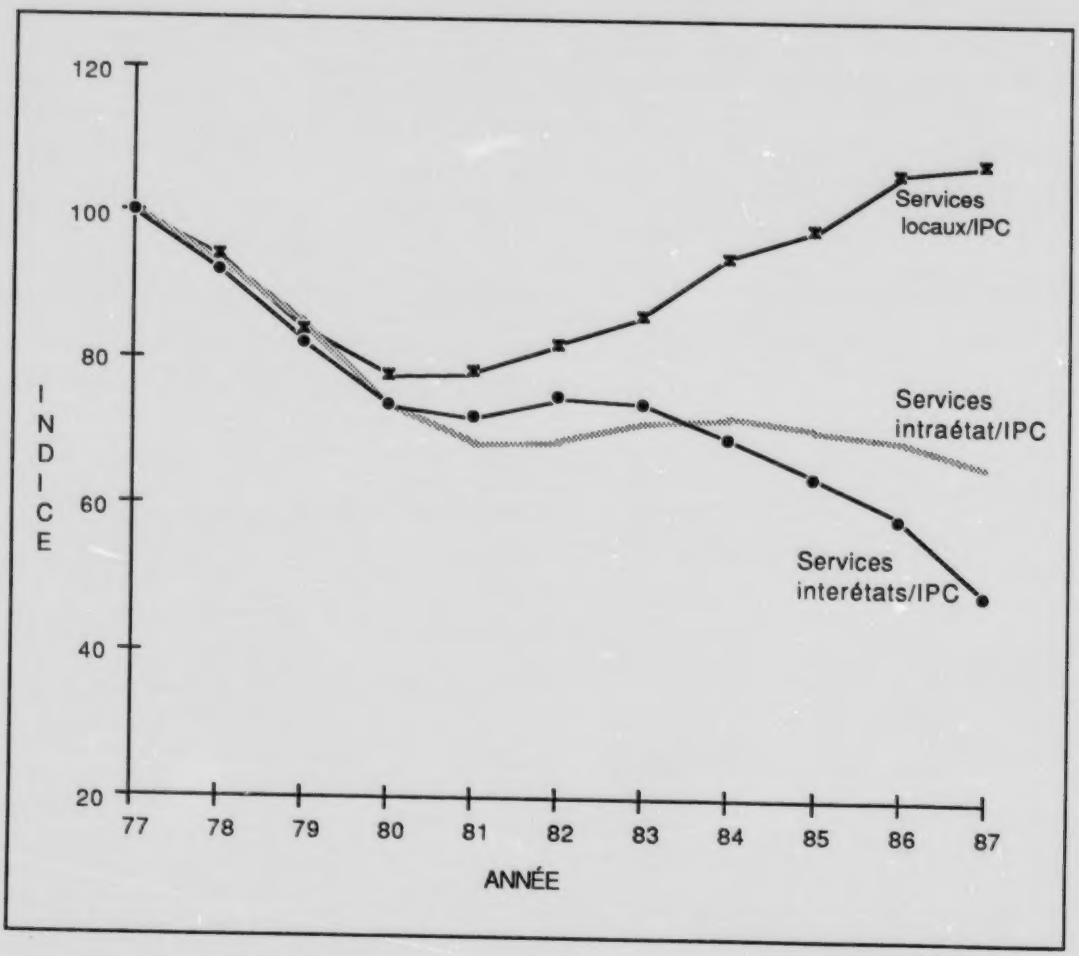
Indice des prix du téléphone aux États-Unis
ajusté à l'indice total des prix à la consommation
(Année de base 1977)



SOURCE: David Chessler and Associates, étude commandée par le Groupe de travail.

Graphique 3-15

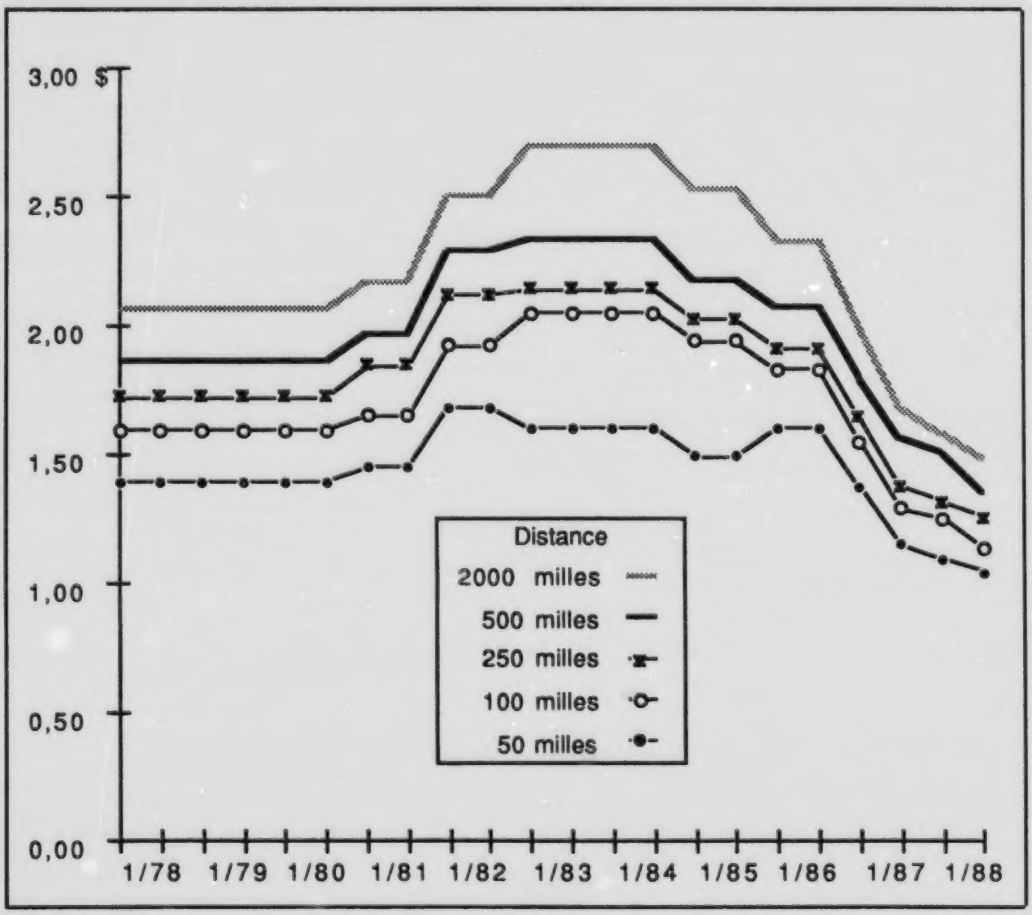
Indice des prix ajustés du téléphone aux États-Unis
(Année de base 1977)



SOURCE: David Chessler and Associates, étude commandée par le Groupe de travail.

Graphique 3-16

Variations du prix des appels interurbains interétats automatiques,
Tarifs uniformisés à l'échelle nationale d'AT&T
(appels de jour de 5 minutes, en dollars US de l'année courante)



SOURCE: Tarifs d'AT&T.

TABLEAU 3-17

Variations du prix des appels interurbains interétats automatiques en périodes de rabais - tarifs uniformisés à l'échelle nationale d'AT&T

(pour un appel de cinq minutes, en dollars US de l'année courante)

DISTANCE	HEURE DU JOUR	9/77	4/82*	1/88	1977-1982 VARIATIONS EN %	1982-1988 VARIATIONS EN %	VARIATIONS CUMULATIVES EN %
50 milles	journée	1,39 $	1,60 $	1,04 $	+15,1 %	-35,0 %	-25,2 %
	soir	0,90	0,96	0,68	+ 6,7	-29,2	-24,4
	nuit	0,56	0,64	0,52	+14,3	-18,8	- 7,1
100 milles	journée	1,59	2,05	1,13	+28,9	-44,9	-28,9
	soir	1,03	1,23	0,73	+19,4	-40,6	-29,1
	nuit	0,64	0,82	0,57	+28,1	-30,5	-10,9
250 milles	journée	1,72	2,14	1,25	+24,4	-41,6	-27,3
	soir	1,12	1,28	0,81	+14,3	-36,7	-27,7
	nuit	0,69	0,86	0,63	+24,6	-26,7	- 8,7
500 milles	journée	1,86	2,34	1,39	+25,8	-40,6	-25,3
	soir	1,21	1,40	0,90	+15,7	-35,7	-26,6
	nuit	0,74	0,94	0,69	+27,0	-26,6	- 8,7
2 000 milles	journée	2,06	2,70	1,48	+31,1	-45,2	-28,2
	soir	1,34	1,62	0,96	+20,9	-40,7	-28,4
	nuit	0,82	1,08	0,74	+31,7	-31,5	- 9,8
Rabais:	soir	35 %	40 %	35 %			
	nuit	60 %	60 %	50 %			

* Tarifs entrés en vigueur au moment du démantèlement (1er janvier 1984).

SOURCE: Tarifs d'AT&T.

É.-U. ont été moins élevées que les réductions en période de pointe (de jour) au cours de la pédiode de 1984 à 1988.

Cette baisse des prix se constate également par un examen des dépenses consacrées au service interurbain interétats de deux usagers représentatifs. Les graphiques 3-18 et 3-19 donnent, respectivement, l'état de compte mensuel pour les appels interurbains interétats d'une moyenne entreprise et d'un abonné du service de résidence à fort degré d'utilisation qui ont eu recours aux services d'AT&T, MCI et US Sprint au cours de la période 1984 à 1987. On a posé par hypothèse que l'abonné du service d'affaires faisait 135 appels par mois sur des distances variées et qu'il se prévalait des rabais généraux offerts. Dans le cas de l'abonné du service de résidence, on a supposé qu'il faisait 36 appels interétats par mois sur des distances variées et qu'il profitait des régimes de rabais sur les appels. L'état de compte imputé par les trois télécommunicateurs a sensiblement baissé au cours de la période visée. Fait à signaler, la forte différence de prix qui existait entre AT&T et les deux autres télécommunicateurs a été réduite à un point tel qu'en 1987, elle était à peine perceptible. De fait, les tarifs moyens par minute, de jour, de soir et de nuit pour les services interurbains offerts par les trois télécommunicateurs, révèlent que ceux de MCI et de US Sprint n'étaient inférieurs que de 4 % et 6 %, respectivement, à ceux d'AT&T en mars 1987.[40]

Le tableau 3-20 présente les changements de prix d'AT&T pour les appels interurbains intraétat automatiques de 50, 100 et 300 milles dans certains États au cours de la période de 1977 à 1988. Comme le tableau le révèle, les prix (en dollars de l'année courante) des appels interurbains dans la plupart de ces États ont baissé au cours de la période. L'Iowa se veut une exception notable du fait qu'aucune diminution de prix ne s'est produite dans aucune des distances à l'étude. On peut aussi y observer que les tarifs pour la même tranche de tarification varient considérablement d'un état à l'autre; par exemple, les prix courants (1988) pour un appel de 300 milles varient d'un minimum de 1,30 $ en Illinois à un maximum de 2,34 $ au Kentucky. Enfin, un expert-conseil a fait remarquer que les écarts tarifaires qui existent entre des états sont positivement reliés aux différences dans les coûts d'accès des télécommunicateurs dans ces états.[41]

Le tableau 3-21 donne, pour les CEB, les changements de prix des appels interurbains intraLATA intraétat automatiques dans les mêmes états sur des distances semblables en 1985 et 1988 (la structure des LATA n'existait pas en 1977 et 1981). Certains états n'ont pas changé les prix intraLATA pour ces appels, tandis que d'autres les ont légèrement majorés; d'autres encore ont décrété de légères réductions de prix. Dans l'ensemble, les changements de prix des services interurbains inter LATA-intraétat ont été beaucoup moins importants que les

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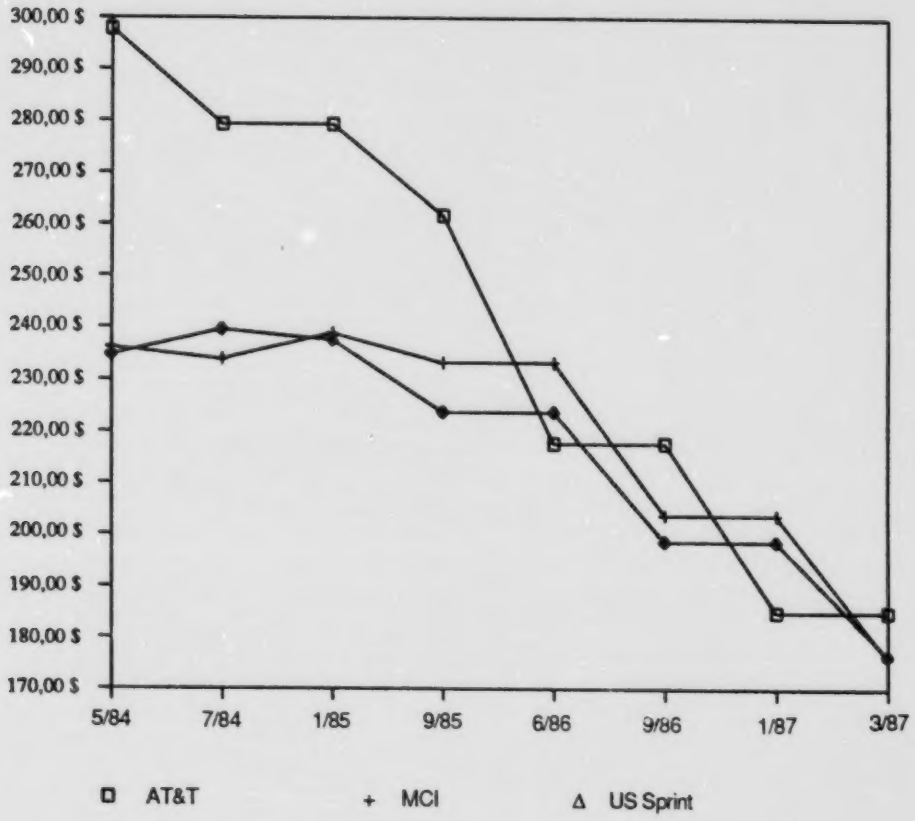
[40] Michael E. Porter, "Competition in the Long Distance Telecommunications Market: An Industry Structure Analysis," étude commandée par AT&T et préparée par Monitor Co., Inc, October 1987, p. 55.

[41] David Chessler and Associates, étude commandée par le Groupe de travail.

Graphique 3-18

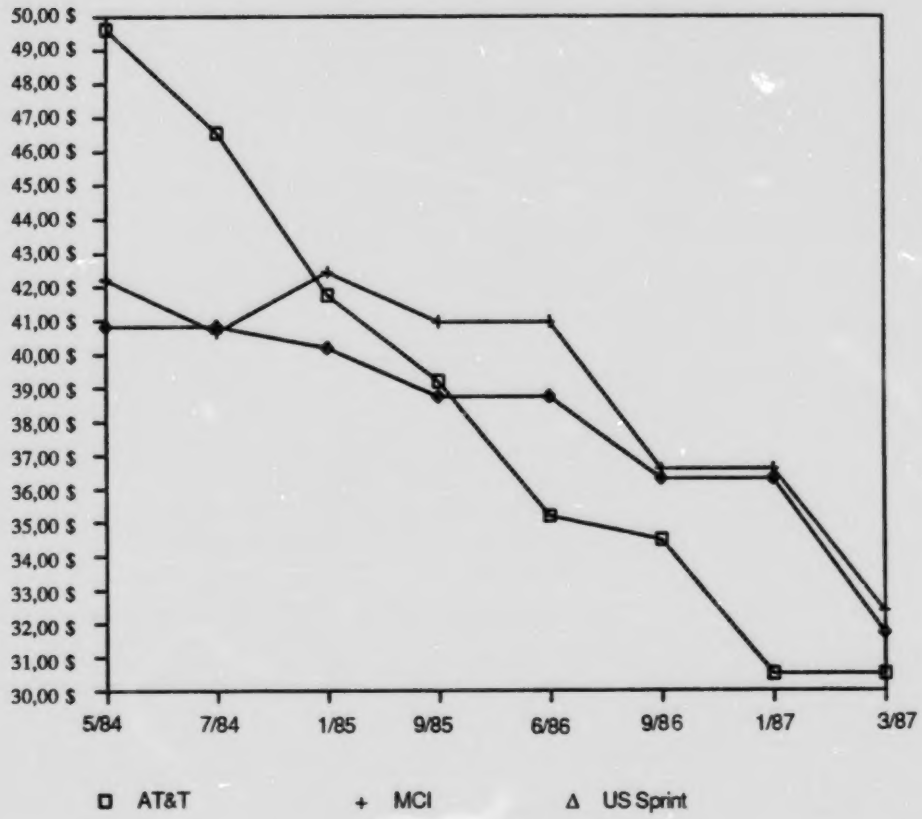
État de compte mensuel des appels interurbains interétats
d'un abonné au service d'affaires - moyenne entreprise



SOURCE: Economics and Technology, Inc., étude commandée par le Groupe de travail, figure 2.7.

Graphique 3-19

État de compte mensuel des appels interurbains interétats
d'un abonné au service de résidence - fort volume



SOURCE: Economics and Technology, Inc., étude commandée par le Groupe de travail, figure 2.8.

TABLEAU 3-20

Variations de prix d'AT&T pour des appels interurbains intraétat automatiques dans des états choisis*

(appel de jour de 5 minutes, en dollars US de l'année courante)

ÉTAT	50 MILLES				100 MILLES				300 MILLES			
	1977	1981	1985	1988	1977	1981	1985	1988	1977	1981	1985	1988
Californie	1,20 $	1,10 $	1,44 $	1,14 $	1,61 $	1,51 $	1,55 $	1,30 $	1,99 $	2,06 $	1,93 $	1,51 $
Floride	1,75	1,71	1,52	1,48	2,22	2,02	1,99	1,68	3,04	2,43	2,27	1,89
Illinois	1,13	1,13	1,23	1,04	1,40	1,40	1,60	1,13	1,79	1,79	1,90	1,30
Iowa	1,35	1,41	1,57	1,57	1,55	1,61	1,78	1,78	1,85	1,86	1,98	1,98
Kentucky	1,79	1,88	1,88	1,60	2,31	2,36	2,31	1,91	3,20	3,20	2,74	2,34
Maine	1,49	1,64	s/o	s/o	1,81	2,34	s/o	s/o	2,09	2,34	s/o	s/o
Montana	1,18	1,19	1,42	1,30	1,62	1,53	1,82	1,45	2,32	2,04	2,47	1,75
New York	1,49	1,59	1,49	1,09	1,94	1,86	1,76	1,19	2,77	2,12	2,01	1,33
Virginie	1,42	1,51	1,51	1,18	1,59	1,71	1,67	1,24	1,75	1,83	1,83	1,44
Washington	1,35	1,39	1,24	1,19	1,55	1,59	1,60	1,37	1,80	1,84	1,92	1,62

* Les données de 1985 et 1988 reposent sur les tarifs d'AT&T après le démantèlement applicables à des appels intraétat interLATA.

SOURCE: Economics and Technology, Inc., Boston, Massachusetts.

TABLEAU 3-21

Variations de prix des CEB pour les appels interurbains automatiques intraétat intraLATA dans des états choisis*

(appels de jour de cinq minutes, en dollars US de l'année courante)

ÉTAT	50 MILLES		100 MILLES		300 MILLES	
	1985	1988	1985	1988	1985	1988
Californie	1,39 $	1,39 $	1,80 $	1,80 $	1,11 $	1,11 $
Floride	1,52	1,52	1,99	1,99	2,14	2,27
Illinois	1,13	1,06	1,40	1,37	1,79	s/o
Iowa	1,40	1,25	1,56	1,52	1,76	1,61
Kentucky	1,88	1,88	2,32	2,31	2,62	2,62
Maine	1,92	1,86	2,43	2,43	2,43	2,43
Montana	1,25	1,14	1,60	1,44	2,15	1,89
New York*	1,06	1,12	1,69	1,32	1,43	1,50
Virginie	1,85	1,72	2,05	1,83	2,26	2,10
Washington	1,19	1,19	1,49	1,49	1,90	1,90

* A l'extérieur de la LATA New York Metropolitan.

SOURCE: Economics and Technology, Inc., Boston, Massachusetts.

changements de tarifs interétats d'AT&T, même si la plupart des États inclus dans ce tableau permettent la concurrence intraLATA (tableau 3-5).

Deux études commandées par le Groupe de travail révèlent que les réductions des tarifs interurbains au cours de la période de janvier 1984 à janvier 1988 peuvent être attribuées principalement à des mesures de réglementation et à la conjoncture économique, plutôt qu'à la concurrence,[42] notamment : la désaffectation des coûts non sensibles au trafic; des changements de ventilation qui ont réduit les coûts interétats non sensibles au trafic attribués à l'interurbain (c'est-à-dire, suppression de l'équipement dans les locaux de l'abonné et du câblage intérieur); la nécessité pour AT&T de passer les réductions de frais de ligne commune des télécommunicateurs aux abonnés sous la forme de tarifs interurbains interétats moins élevés; des réductions des taux de rendement autorisés; la stimulation par suite des tarifs interurbains moins élevés; et la réduction de 46 % à 36 % de l'impôt sur le revenu des sociétés aux É.-U., en 1986, qui a fait baisser les besoins en revenus et peut avoir entraîné la baisse de l'indice global des services téléphoniques en 1987. En outre, un certain nombre d'organismes de réglementation ont adopté des barèmes d'amortissement accéléré.

Le tableau 3-22 présente, pour les CEB, un échantillon de changements de tarifs mensuels applicables au service local dans les 10 mêmes tats pour la période de 1977-1988. Les tarifs mensuels fixes du service local (sauf ceux du service de la ligne vitale) sont inclus pour des secteurs d'appel local relativement comparables dans tous les états visés (groupe tarifaire 1). Aux fins de l'identification des états plus ruraux, le tableau donne la densité démographique mesurée en fonction du nombre de personnes par mille carré. Tel que le tableau l'indique, les tarifs du service local ont baissé dans les états plus populeux (sauf en Californie, où il s'agit d'une moyenne) et ils ont augmenté dans les états moins populeux.

Les modifications tarifaires résumées dans cette section ont eu des répercussions variées sur diverses catégories d'usagers. Les abonnés du service de résidence et les petites entreprises abonnées qui utilisent le téléphone principalement pour des appels à l'intérieur d'une zone d'appel local ont subi des majorations des tarifs locaux sans bénéficier sensiblement des réductions des tarifs interurbains sur de courtes distances. Les abonnés du service de résidence qui profitent des périodes de rabais ont connu les plus fortes majorations de tarifs pour les appels de courte distance et les plus faibles diminutions de tarifs pour les appels de longue distance. Les abonnés des services d'affaires et résidentiel qui font un nombre important d'appels de longue distance ont bénéficié de diminutions des tarifs interurbains. Enfin, les aobnnés du service d'affaires qui font la plupart de leurs appels interurbains en périodes de pointe (le jour) ont joui des plus fortes diminutions de prix.

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[42] Economics and Technology, Inc., étude commandé par le Groupe de travail. Voir également David Chessler and Associates, étude commandée par le Groupe de travail.

TABLEAU 3-22

Variations des tarifs locaux mensuels des CEB applicables au service de résidence dans des états choisis*

(en dollars US de l'année courante)

ÉTAT	DENSITÉ DÉMOGRA-PHIQUE (1)	GROUPE TARI-FAIRE(2)	1977	1981	1985	1988
Californie(3)	151,4	s/o	5,70 $	5,70 $	8,25 $	8,25 $
Floride	180,0	1	8,60	8,60	8,55	8,00
Illinois(4)	205,3	1	5,35	5,15	9,85	9,88
Iowa	52,1	1	5,70	6,90	10,85	10,90
Kentucky	92,3	1	5,87	8,86	12,63	11,41
Maine	36,3	1	7,30	8,40	11,10	10,51
Montana(5)	5,4	1	4,65	5,00	13,11	13,11
New York (6)	370,6	1	6,57	5,90	8,80	9,27
Virginie	134,7	1	5,75	5,25	9,57	8,87
Washington	62,1	1	5,00	3,95	7,79	8,75

* Tarifs mensuels fixes du service local, pour un nombre d'appels illimité (les plus bas possibles, à l'exception du service de ligne vitale). Les tarifs ne comprennent pas les FLA fédéraux (1 $ en 1985 et actuellement 2,60 $), les frais de location d'appareil, l'entretien du câblage intérieur, etc. Aucun de ces états n'imposent de FLA.

NOTES:

(1) Population au mille carré.
(2) Quoique défini de diverses façons, le groupe tarifaire 1 comprend les plus petites circonscriptions de chaque état.
(3) Tarifs moyens à l'échelle de l'état.
(4) Les tarifs ne s'appliquent pas aux circonscriptions faisant partie de la zone du Chicago Metropolitan (où le service local est facturé selon l'utilisation seulement).
(5) Depuis le démantèlement, le Montana utilise des tarifs moyens à l'échelle de l'état. Ainsi les tarifs de 1977 et 1981 qui s'appliquent au groupe tarifaire 1 ne peuvent être comparés à ceux de 1985 et 1988 puisque ces derniers représentent la moyenne à l'échelle de l'état.
(6) Les tarifs ne s'appliquent pas aux circonscriptions faisant partie de la LATA New York Metropolitan.

SOURCES: Economics and Technology, Inc., Boston, Massachusetts; et communications avec les CEB.

3.1.9 Mesures visant à atténuer les effets néfastes de tarifs locaux plus élevés

Consciente que les divers changements qu'elle avait apportés à l'industrie, y compris l'introduction des FLA, pourraient avoir des effets néfastes sur l'universalité du service, la FCC a mis en oeuvre un certain nombre de mécanismes d'atténuation. Plus précisément, elle a implanté des programmes de subvention de la ligne vitale et un Fonds d'universalité du service.

La subvention de la ligne vitale a pour objet d'aider financièrement les abonnés qui pourraient autrement abandonner le service téléphonique local à cause des FLA, ainsi que ceux et celles qui ne sont pas abonnés à l'heure actuelle. La FCC a décidé de ne pas administrer directement les programmes de subvention de la ligne vitale. Elle a conclu que les organismes de réglementation d'État, oeuvrant de concert avec leurs compagnies de téléphone locales, se trouvent les mieux placés pour cerner les ménages à faibles revenus de leur ressort qui ont besoin d'aide pour payer le service téléphonique local. La FCC a également conclu que le programme fédéral de la ligne vitale doit compléter les programmes de la ligne vitale des états et inciter fortement les organismes de réglementation d'État à élaborer des programmes de subvention de la ligne vitale qui satisfont les besoins locaux.

Lorsque la FCC a instauré au départ la subvention de la ligne vitale, elle a prévu une réduction des FLA pouvant aller jusqu'à 50 % des frais fédéraux perçus sur les lignes d'abonnés, faisant contrepartie à la subvention versée par les états aux ménages à faibles revenus, après avoir procédé à un examen de leurs ressources, sous réserve de vérification. En décembre 1985, la FCC a adopté des mesures plus générales d'aide à la ligne vitale destinées aux ménages à faibles revenus. Ces mesures prévoyaient une réduction des frais fixes équivalant jusqu'à deux fois le montant des FLA, par le truchement d'une dispense de l'intégralité des FLA jusqu'à concurrence du montant couvert par le programme d'aide à la ligne vitale de l'état concerné. Les contributions de contrepartie versées par l'état concerné pouvaient se traduire par une réduction des tarifs des services téléphoniques locaux, des frais de branchement et/ou des dépôts de garantie exigés.

En avril 1987, la FCC a lancé un programme en deux étapes, intitulé "Link Up America". Ce nouveau programme, entré en vigueur en octobre 1987, est destiné aux ménages à faibles revenus qui ne sont pas abonnés au téléphone; il vise à défrayer les frais de branchement et d'installation qui empêchent parfois certains ménages de bénéficier du réseau téléphonique. Le programme "Link Up America" assume la moitié des frais d'installation et de branchement pour une ligne téléphonique par ménage, jusqu'à concurrence de 30 $, à condition que certains critères d'admissibilité soient remplis. Chaque fois qu'une compagnie de téléphone locale propose un plan de paiement différé et sans intérêt pour l'installation du téléphone, le programme "Link Up America" lui accorde une subvention fédérale pouvant aller jusqu'à 200 $, pour couvrir ses coûts d'intérêts. Toujours en vertu de ce programme, la contribution fédérale de contrepartie est relevée afin de répondre à l'augmentation des FLS, lesquels doivent passer à 3,50 $ par mois d'ici avril 1989 (section 3.1.2). En outre, ce programme encourage les états, sans les y obliger, à payer la deuxième moitié des frais de branchement. Par ailleurs, les

états et les compagnies de téléphone sont incités à mettre en place des plans de paiement différé pour le solde des frais de commencement de service, ainsi qu'à accorder des réductions ou des dispenses sur les dépôts de garantie exigés, dans l'intérêt des abonnés à faibles revenus ayant une cote de solvabilité satisfaisante.

Les programmes fédéraux d'exemption des FLA et Link Up America sont financés par des frais perçus des télécommunicateurs interurbains. À l'heure actuelle, les besoins en revenus pour ces deux programmes sont recouvrés au moyen des FLCT. Le 1er avril 1989, toutefois, les besoins en revenus au titre de la subvention de la ligne vitale seront recouvrés au moyen de frais fixes par ligne perçus des télécommunicateurs interurbains.[43] Les programmes de subvention de la ligne vitale de la FCC sont administrés par la NECA.

Des services de la ligne vitale sont en place dans certains états depuis une vingtaine d'années -- longtemps avant l'avènement de la concurrence, le plan de frais d'accès de la FCC et le démantèlement -- mais ils ont grandement évolué depuis 1984 en réponse aux programmes fédéraux de la ligne vitale. Au début de 1988, 23 éEtats offraient l'un et l'autre des programmes susmentionnés ou les deux. De ce nombre, 10 faisaient partie des 15 états les moins populeux.

L'utilisation de la subvention fédérale de la ligne vitale varie sensiblement d'un état à l'autre. Par exemple, la Californie, dont le programme de subvention de la ligne vitale est bien établi, prévoit recevoir près de 20 millions de dollars en subventions fédérales en 1988. New York, par contraste, est doté d'un programme beaucoup moins élaboré et il ne recevra qu'environ trois millions de dollars, tandis que la Floride obtiendra 288 000 $ (uniquement du programme Link Up America).

Outre ses programmes de subvention de la ligne vitale, la FCC a, le 1er janvier 1986, établi un Fonds d'universalité du service afin d'aider les compagnies de téléphone oeuvrant dans des régions où les coûts sont plus élevés que la moyenne. Il peut arriver que les coûts soient plus élevés à cause des caractéristiques géographiques, de la faible densité démographique, ou d'installations téléphoniques plus récentes attribuables à des perfectionnements de la technologie de commutation locale.[44]

Le Fonds d'universalité du service a été constitué parce que l'on se préoccupait de ce que l'établissement de la part fédérale (interétats) des coûts non sensibles au trafic à un taux fixe de 25 % puisse entraîner des coûts plus élevés dans

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[43] Federal Register, Vol. 52, No. 109, Monday, 8 June 1987, Rules and Regulations, p. 21,536.

[44] Economics and Technology, Inc., "Alternative Approaches to the Recovery of Access Costs: A Review of the U.S. Situation," étude commandée par le ministère de la Culture et des Communications, Ontario, mars 1988.

certaines régions.[45] (Dans certains états, la part fédérale a été sensiblement supérieure à 25 % et une réduction de cette part ferait grimper les besoins en revenus intraétat et, probablement, les tarifs du service local.) Le montant de la subvention à laquelle une compagnie de téléphone a droit dépend de deux choses: a) la somme par laquelle les coûts des lignes d'abonnés dépassent la moyenne nationale, et b) le nombre de lignes d'accès d'abonnés desservies par la compagnie de téléphone. Les compagnies dont les coûts non sensibles au trafic sont d'au moins 115 % de ceux de la moyenne nationale ont droit à un dédommagement.

La FCC a récemment déclaré que le Fonds d'universalité du service sera réorienté de manière à offrir une subvention interétats supplémentaire aux petites et moyennes compagnies de téléphone et une subvention moins élevée aux grandes compagnies, c'est-à-dire, les compagnies de téléphone comptant plus de 200 000 lignes d'accès.[46] À l'heure actuelle, le Fonds d'universalité du service est financé par les FLCT. Toutefois, le 1er avril 1989, la subvention réorientée sera recouvrée au moyen de frais fixes perçus des télécommunicateurs, calculés selon la même méthode que dans le cas des programmes fédéraux de subvention de la ligne vitale. Le Fonds d'universalité du service est, lui aussi, administré par le NECA.

L'utilisation précise des revenus provenant du Fonds d'universalité du service est laissée à la discrétion de chacune des commissions de réglementation d'État. Il n'en reste pas moins que la FCC, par l'établissement de ce fonds, entendait qu'il serve à réduire les tarifs du service téléphonique local dans les régions où ces derniers seraient autrement plus élevés.

Le nombre de ménages dotés de téléphone aux É.-U. est passé de 78,4 millions en 1983 à 84,3 millions en 1987. Le taux national de pénétration du téléphone, calculé d'après le pourcentage de ménages dotés de téléphone, a augmenté de 91,4 % à 92,3 % au cours de cette période, soit une hausse d'environ 1 %.[47]

La croissance du nombre d'abonnés est attribuable en partie à celle de la population. L'augmentation du taux de pénétration du téléphone s'est produite, toutefois, malgré les coûts plus élevés pour les abonnés (FLA et installation) et les compagnies de téléphone susmentionnées, ce qui laisse supposer que les programmes fédéraux et d'État de subvention de la ligne vitale et le Fonds d'universalité du service peuvent avoir atténué tous les effets négatifs de l'implantation des FLA fédéraux et de la réduction de la part des coûts non sensibles au trafic attribuée à la juridiction interétats.[48]

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[45] Ibid.

[46] Federal Register (voir note 43) p. 21,537.

[47] Economics and Technology, Inc., étude commandée par le Groupe de travail.

[48] Ibid.

3.2 Concurrence dans la prestation du service téléphonique interurbain public au Royaume-Uni

Cette section expose les renseignements disponibles concernant la concurrence au Royaume-Uni. Le travail de recherche à cette fin a été exécuté par des employés affectés au Groupe de travail.

3.2.1 Raison d'être du changement

Les études effectuées par le gouvernement du R.-U. vers le milieu des années 1970 ont mis en lumière la nécessité de promouvoir la concurrence au sein des industries britanniques des télécommunications et de la technologie, afin d'accroître leur efficience et leur compétitivité à l'échelle mondiale. Selon diverses études gouvernementales britanniques, on a estimé que la concurrence était nécessaire pour encourager les fournisseurs de services à une plus grande efficience.[49] En outre, on a pensé que la privatisation de l'industrie des télécommunications rendrait celle-ci plus exigeante d'elle-même et plus novatrice dans la mesure où elle serait moins protégée par le gouvernement contre les forces réelles du marché.

3.2.2 Modifications législatives se répercutant sur la structure de l'industrie

La Loi de 1981 sur les télécommunications (Telecommunications Act) a été la première mesure législative majeure visant à démanteler le monopole qui existait depuis 1911 dans le domaine des télécommunications. Suite à l'adoption de cette loi, le service téléphonique national, le British Telecommunications plc (British Telecom), était dissocié du monopole détenu jusque-là par le Service national des postes (National Post Office) sur les services des postes et des télécommunications. Sur les conseils de British Telecom, le Secrétaire d'État chargé de l'industrie était autorisé, de par la loi, à émettre des permis d'entrée sur le marché des télécommunications. Le premier permis fut octroyé à British Telecom et, en 1982, Cable and Wireless plc (C&W) était autorisé à exploiter un réseau de télécommunications sous la forme d'un plan conjoint entre C&W, la British Petroleum Company plc et la Barclays Merchant Bank (appelé le Mercury Joint Venture). La compagnie Mercury Communications Limited, qui s'était à l'origine constituée en société en 1981 sous le nom Cable and Wireless (Bahrain) Ltd., devint l'agent responsable de Mercury Joint Venture. En 1983, le Secrétaire d'État chargé de l'industrie octroyait un permis à deux systèmes nationaux de radiotéléphonie cellulaire mobile, à savoir Telecom-Securicor Cellular Radio Ltd. et Racal-Vodaphone Ltd. Il a également accordé un permis à la ville de Kingston-upon-Hull, qui possède son propre système de téléphone, lequel est destiné à répondre aux besoins locaux de la municipalité.

La Loi de 1984 sur les télécommunications constitue la deuxième mesure législative majeure. Cette loi portait création de l'Office des télécommunications

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[49] Roger S. Turney, "Telecommunications Liberation in the U.K.: The British Get a Choice," Telephony, 26 October 1987, p. 42.

(Oftel) et du poste de Directeur général des télécommunications. Elle officialisait également le mécanisme d'accréditation des télécommunicateurs, en créant les Public Telecommunications Operators (PTOs). Oftel, organisme non ministériel du gouvernement, fait directement rapport au Parlement et fournit des conseils au Secrétaire d'État sur l'accréditation des PTOs. Parmi ses autres fonctions, Oftel est chargé de surveiller et de faire respecter les conditions stipulées dans les permis des PTOs, de promouvoir les intérêts des consommateurs et d'encourager la compétitivité des PTOs et des fournisseurs de services à l'échelle internationale.

3.2.3 Contrôle d'entrée et de sortie du marché

La Loi de 1984 confère au Secrétaire d'État, après consultation avec Oftel, le pouvoir d'accorder des permis aux PTOs. Ces permis ont une durée de validité limitée et peuvent être révoqués par le Secrétaire d'État, sur préavis aux détenteurs. Les PTOs accrédités se répartissent en trois catégories :

1) ceux qui offrent des services de télécommunications de base – téléphonie vocale et transmission de messages (British Telecom, Mercury et la ville de Kingston-upon-Hull);

2) ceux qui offrent des services de radiotéléphonie cellulaire (Telecom-Securicor Cellular Radio Ltd. et Racal-Vodaphone Ltd.); et

3) ceux qui offrent des services de câbles à bandes larges (il existe neuf exploitants de câbles accrédités).

Le Secrétaire d'État a annoncé qu'aucun nouveau permis ne serait accordé avant novembre 1990 aux PTOs fournissant des services de télécommunications de base. Exceptionnellement, le conseil de ville de Kingston-upon-Hull, British Telecom et Mercury seront, jusqu'en 1990, les seuls autorisés à offrir des services de télécommunications de base. Les PTOs des catégories 2 et 3, désireux d'offrir des services de base de téléphonie vocale, doivent conclure des ententes d'interconnexion avec British Telecom ou Mercury.

Le permis de British Telecom lui a été délivré en 1984 pour une période de 25 ans et peut-être révoqué par le Secrétaire d'État, avec un préavis de dix ans. Cependant, aucun préavis de révocation ne peut être émis avant quinze ans après l'octroi du permis, si bien que British Telecom jouit en fait d'une garantie de 25 ans. Dès 1984, la compagnie Cable and Wireless avait racheté à ses partenaires initiaux l'ensemble des droits de Mercury Joint Venture et, en 1984, Mercury Communications Ltd. recevait un permis lui permettant de fonctionner comme un PTO. Le permis de Mercury contient les mêmes dispositions de révocation, à savoir qu'un préavis de dix ans peut être émis, à condition qu'au moins quinze ans se soient écoulés depuis l'octroi du permis.

Les permis de British Telecom et Mercury sont néanmoins assortis de dispositions spéciales, permettant au Secrétaire d'État de les révoquer dans certaines circonstances. Ces circonstances spéciales sont les suivantes :

a) le détenteur demande la révocation de son permis;
b) le détenteur néglige de payer les frais de permis initiaux, les frais annuels de renouvellement ou tous frais spéciaux destinés à couvrir les coûts de la réglementation imposée par Oftel ou par la Commission des monopoles et fusions (Monopolies and Mergers Commission);
c) le détenteur néglige de se conformer à une ordonnance rendue par le Directeur général des télécommunications l'enjoignant de respecter les conditions stipulées dans son permis;
d) le détenteur dépose son bilan, est mis sous séquestre, cesse ses activités ou liquide ses affaires.

En résumé, l'entrée sur le marché au R.-U. est entièrement contrôlée par le Secrétaire d'État chargé de l'industrie. Dès lors qu'ils sont admis à entrer sur le marché, les permis de British Telecom et de Mercury leur confèrent, de fait, une garantie de 25 ans, soit jusqu'en 2009. En outre, aucun nouveau permis ne sera accordé avant 1990 pour la fourniture de services de télécommunications de base.

3.2.4 Privatisation de l'industrie des télécommunications

En dehors des changements apportés à la législation et à la réglementation, c'est surtout sa privatisation qui a façonné l'industrie britannique des télécommunications. En 1984, environ 51 % des parts de British Telecom ont été vendues au grand public. Quant à Mercury, elle a également été indirectement privatisée. Alors qu'elle était, à l'origine, partiellement propriétaire de Mercury Joint Venture pour le devenir complètement en 1984, la compagnie Cable and Wireless plc (C&W), dont le gouvernement du Royaume-uni détenait près de 50 % des parts, était offerte au grand public en 1981. En 1983, le gouvernement réduisait son intérêt dans la compagnie à 23 % et, en 1985, toutes les parts de C&W étaient vendues.[50] C'est ainsi qu'en l'espace de cinq ans, à peu près, le monopole des services de télécommunications, jusque-là détenu par le Service national des postes, cédait le pas à deux entreprises de télécommunication privées et concurrentielles. Cependant, comme nous le verrons par la suite, les caractéristiques de celles-ci étaient loin d'être les mêmes.

3.2.5 La concurrence aujourd'hui - British Telecom et Mercury

En dépit de l'élimination progressive du monopole détenu par British Telecom sur la prestation du service téléphonique interurbain, l'arrivée sur le marché de Mercury, désormais son concurrent, n'a que partiellement érodé sa position dominante. En effet, alors que l'infrastructure monopolistique des services téléphoniques interurbains et locaux, héritée du Service national des postes en 1981 par British Telecom, s'était développée sur une période d'environ 70 ans, en comparaison, les activités de Mercury ne remontaient qu'à 1982. En outre, ce n'est qu'en 1985 qu'Oftel finissait par résoudre les problèmes en suspens concernant l'interconnexion des réseaux de British Telecom et de Mercury, et ce n'est qu'en 1986 que Mercury a pu offrir un service téléphonique public commuté. Cependant, depuis 1982, Mercury s'est doté d'un réseau intervilles étendu couvrant

[50] Cable and Wireless plc, Report and Accounts, différentes années.

l'Angleterre et l'Écosse. De plus, elle a mis sur pied des réseaux locaux dans les villes de Londres, Edimbourgh, Manchester et Glasgow, qui permettent aux abonnés de se brancher directement sur le réseau de Mercury. Force est de constater qu'au Royaume-Uni, la concurrence touche autant les services locaux qu'interurbains.

Les activités et le territoire de chaque télécommunicateur sont stipulés dans son permis. Le permis de British Telecom l'oblige à offrir des services de télécommunications universels dans l'ensemble du Royaume-Uni (en dehors de la ville de Kingston-upon-Hull). Il s'agit de services locaux, ruraux et inter-nationaux qui doivent suffire à répondre à tous les besoins raisonnables des utilisateurs. En outre, British Telecom est tenue d'offrir d'autres services, et notamment des services de téléphone public payant ainsi que des services d'urgence et d'assistance-annuaire.

Par contre, le permis de Mercury ne l'oblige pas à offrir un service universel, mais l'autorise plutôt à desservir les régions du Royaume-Uni où elle estime que ses activités peuvent être rentables. Cependant, le permis de Mercury prévoit qu'elle sera tenue, d'ici 1990, d'offrir un service interurbain dans un minimum de 23 villes désignées. (En fait, Mercury a d'ores et déjà atteint et même dépassé cet objectif.) ÊLe réseau interurbain de Mercury se caractérise par une configuration en huit, le cercle nord incluant Nottingham, Sheffield, Leeds, Manchester et Birmingham, avec des lignes supplémentaires jusqu'à Edimbourgh et Glasgow, et le cercle sud inclus Hemel Hampstead, Milton Keynes, Birmingham, Bristol et Londres, avec des lignes supplémentaires jusqu'à Poole, Southampton et Portsmouth. À l'heure actuelle, cette compagnie est en train de prolonger son réseau jusqu'à Aberdeen. Le réseau de Mercury comprend également des stations terrestres situées à Londres et dans le comté d'Oxfordshire, pour assurer les connexions internationales.

De fait, Mercury a mis sur pied un réseau et un système de transmission à certains égards plus avancés que ceux de British Telecom. L'ensemble du réseau de Mercury (réseau local et interurbain) s'appuie sur des câbles de fibres optiques. Son réseau national (plus de 10 000 kilomètres de routes)[51] est entièrement numérisé. À Londres, plus de 10 000 kilomètres de routes de fibres optiques ont été installés pour le service local, ce qui permet d'atteindre directement 1 000 des principaux immeubles d'affaires et plus du "Square Mile".[52]

Quant à elle, British Telecom s'est activement occupée à mettre en place fibres optiques et systèmes numériques. À la fin de 1987, environ 40 % du trafic interurbain de British Telecom était assuré par fibres optiques. Elle a également annoncé son intention d'installer, en 1988, 60 000 kilomètres de fibres optiques à Londres, pour la commodité du monde des affaires. En outre, à l'exception d'une seule circonscription, tous les circuits du réseau de British Telecom sont numériques.

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[51] Les câbles peuvent être faits de multiples brins. "Kilomètre de route" mesure la longueur de câble fois le nombre de brins de fibres optiques.

[52] Le quartier des affaires de Londres.

Dans les régions du Royaume-Uni où la concurrence existe au niveau des services locaux, les abonnés peuvent choisir de se brancher directement sur le réseau de British Telecom et (ou) sur celui de Mercury. Les abonnés qui choisissent de se brancher directement sur le réseau de Mercury ont également accès à celui de British Telecom, grâce à l'interconnexion des deux réseaux. Dans les régions où Mercury n'offre pas de services locaux concurrentiels mais exploite des installations intervilles, les abonnés peuvent accéder au réseau de Mercury par le truchement du réseau local de British Telecom. Dans l'ensemble du Royaume-Uni, il existe 70 zones d'accès au réseau de Mercury; 23 nouvelles zones devaient s'y ajouter au cours de l'hiver 1987-1988.[53] Dans les régions où Mercury n'exploite pas d'installations locales ni de réseaux intervilles, aucune disposition n'a été prise pour permettre l'accès au réseau de Mercury. En octobre 1987, Mercury a déclaré que 65 % de la population du R.-U. avait accès à ses services.[54]

Comme nous l'avons déjà vu, c'est en 1985 qu'Oftel a déterminé les conditions de l'entente d'interconnexion conclue entre British Telecom et Mercury. Pour ce qui est des frais de branchement, Oftel a établi que Mercury serait tenue de payer à British Telecom les coûts directs des matériaux, de l'équipement, des appareils et de la main-d'oeuvre, et d'assumer 50 % des coûts subséquents encourus par British Telecom pour fournir la capacité requise. L'entente contient également des dispositions relatives au paiement de frais de branchement similaires, dans les cas où une capacité inutilisée et non nouvelle est employée, et où une capacité supplémentaire est requise pour répondre à la demande. En outre, Mercury est tenue de verser à British Telecom un loyer trimestriel équivalent au montant des frais que British Telecom facture à l'ensemble de ses abonnés pour chaque ligne commerciale exclusive sans appareil téléphonique. L'entente ne prévoit aucun dédommagement en faveur de British Telecom en cas de manque à gagner, même si cela compromet les contributions nécessaires à la prestation du service par British Telecom.

Les permis respectifs de British Telecom et de Mercury comportent, néanmoins, une clause intéressante : en effet, chaque compagnie a le pouvoir discrétionnaire d'imposer des frais d'accès à toute entreprise de télécommunications raccordée à ses réseaux. Elles sont tenues d'utiliser les revenus obtenus pour financer les coûts de leurs services spéciaux, notamment les services téléphoniques publics, les appareils pour les personnes handicapées, l'assistance-annuaire à l'intention des personnes aveugles ou autres personnes handicapées, les numéros urgents et les services spéciaux destinés aux personnes malentendantes. Bien que British Telecom et Mercury aient la possibilité d'imposer de tels frais, aucune n'a encore choisi de le faire.

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[53] Mercury Communications Limited, Mercury, Winter 1987/88.

[54] Nick Bundy, "The Rise and Rise of Mercury Communications", Zodiac (a Mercury publication), No. 35, 1987.

3.2.6 Performance des télécommunicateurs depuis l'entrée en concurrence

Les tableaux 3-23 et 3-24 indiquent, respectivement, la position financière de British Telecom et de Mercury, ces dernières années. Les revenus d'exploitation totaux de British Telecom sont passés d'environ 6,4 milliards de livres en 1983 à environ 10,2 milliards de livres en 1988. Malgré une variation de sa performance d'année en année, les revenus nets de British Telecom pour cette période ont augmenté dans l'ensemble d'environ 44 % pour atteindre quelque 1,5 milliard de livres en 1988. Les revenus d'exploitation totaux de Mercury ont fluctué entre 0,2 million de livres et 13 millions de livres au cours de la période 1983 à 1987. Ses coûts d'exploitation sont restés relativement stables pour les années 1983, et 1984 et jusqu'au 31 mars 1985. Ensuite, pour l'année s'étant terminée le 31 mars 1986 (année où Mercury a lancé son service interurbain concurrentiel), les coûts d'exploitation de cette compagnie ont triplé pour atteindre 17 millions de livres et, l'année suivante, ils ont doublé, atteignant ainsi le cap des 33,4 millions de livres. Ainsi, les revenus d'exploitation nets sont devenus de plus en plus négatifs. Toutefois, Mercury a enregistré des revenus nets positifs dernièrement, en grande partie par suite de crédits d'impôt.

On constate un écart important entre ces deux compagnies pour ce qui est des dépenses en capital effectuées sur les éléments d'actif corporel fixes. Pour les exercices financiers s'étant terminés en mars 1983 et 1984, les dépenses en capital de British Telecom ont été stables, soit environ 1,5 milliards de livres. Pour chacune des trois années suivantes, soit de 1985 à 1987, elles ont atteint environ 1,8 millions de livres, 2,0 millions de livres et 2,1 millions de livres respectivement.[55] Quant à Mercury, ses dépenses en capital ont été de l'ordre de 1,4 millions de livres pour la période de neuf mois s'étant terminée en septembre 1984. Pour chacune des trois années suivantes, période se terminant en mars 1987, les dépenses en capital annuelles ont atteint environ 77 millions de livres, 50 millions de livres et 154 millions de livres respectivement, en raison de la mise en service des réseaux locaux et interurbains de cette compagnie.[56]

Il n'existe aucune statistique permettant d'évaluer la part du marché détenue par Mercury. La comparaison des revenus précités laisse croire que la part du marché de Mercury reste très modeste. Notons, cependant, qu'il s'agit ici d'une comparaison entre des revenus bruts et non pas entre des revenus se rattachant aux seuls services interurbains. En outre, les résultats pour 1987 portent sur une période où la concurrence interurbaine n'existait que depuis un an.

Plusieurs études privées fournissent des statistiques sur le pourcentage relatif des abonnés de British Telecom et de Mercury. Au début de l'année 1987, une firme d'agents de change londonienne indiquait que 37 % des principaux utilisateurs

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[55] British Telecommunications plc, Report and Accounts, 1985, p. 29; 1986, p.29; et 1987, p. 29.

[56] Mercury Communications Ltd., Report and Accounts, 1985, p. 9; 1986, p. 7; et 1987, p. 8.

TABLEAU 3-23

Performance financière de British Telecom
(en millions de livres de l'année courante)

ANNÉE SE TERMINANT LE 31 MARS	1983	1984	1985	1986	1987	1988
Total des revenus d'exploitation*	6 414	6 830	7 585	8 317	9 339	10 185
Total des dépenses d'exploitation**	4 849	5 299	5 729	6 199	6 990	7 576
Revenus nets d'exploitation	1 565	1 531	1 856	2 118	2 349	2 609
Partage des profits entre employés	--	--	--	18	--	38
Intérêts débiteurs	549	544	395	267	282	279
Bénéfice avant impôts sur les revenus	1 016	987	1 461	1 833	2 067	2 292
Impôts créditeurs sur les revenus	--	--	535	743	754	833
Bénéfice net	1 016	987	926	1 090	1 313	1 459

* Inclut les revenus de la location d'équipement, des appels (téléphone, telex, etc.) des ventes et autres revenus d'exploitation, et des activités outre-mer.

** Inclut les coûts en ressources humaines, les frais d'amortissement, les paiements aux activités outre-mer et autres (l'entretien du réseau, le marketing, l'approvisionnement des lignes d'abonnés, les frais de location).

SOURCE: British Telecommunications plc, Report and Accounts.

TABLEAU 3-24

Performance financière de Mercury

(en millions de livres de l'année courante)

ANNÉE SE TERMINANT	LE 31 DÉC. 1983	LE 30 SEPT. 1984	LE 31 MARS 1985	LE 31 MARS 1986	LE 31 MARS 1987
Total des revenus d'exploitation*	4,9	5,3	0,2	3,0	13,0
Total des dépenses d'exploitation**	5,1	5,8	5,5	17,0	33,4
Revenus nets d'exploitation	(0,168)	(0,5)	(5,3)	(14,0)	(20,4)
Autres postes de revenus nets	0,151	0,2	0,1	0,03	0,2
Intérêts débiteurs	--	--	(0,2)	1,2	1,5
Bénéfice avant impôts sur les revenus	(0,017)	(0,3)	(5,4)	(15,2)	(21,7)
Impôts créditeurs sur les revenus	--	--	(11,7)	(18,9)	(24,7)
Bénéfice net(Perte)	(0,017)	(0,3)	6,3	3,7	3,0

* En 1983, 1984 et 1985, ces montants comprenaient les frais de gestion perçus auprès de Mercury Joint Venture.

** Inclut les coûts se rattachant aux employés, aux pensions, aux autres activités d'exploitation, à l'amortissement, à la rémunération des vérificateurs ainsi qu'à la location de l'équipement.

SOURCE: Mercury Communications Limited, Report and Accounts.

commerciaux des services de télécommunications, dans la ville de Londres, étaient des abonnés de Mercury, et que 34 % envisageaient de le devenir.[57] Une autre étude révélait qu'à la fin de 1986, un peu moins de 20 % des principaux abonnés de British Telecom à Londres faisaient également affaire avec Mercury; en mai 1987, le pourcentage des abonnés de British Telecom ayant également recours aux services de Mercury était passé à 71 %.[58]

À l'origine, les efforts d'expansion de Mercury ont ciblé le service d'affaires plutôt que résidentiel. Mercury compte aujourd'hui environ 1 000 abonnés d'affaires, dont la Bourse de Londres, les cinq principales banques britanniques et 19 des 20 plus grosses banques américaines ayant une succursale à Londres. Mercury a peu percé le marché résidentiel, ne comptant que quelques milliers d'abonnés.[59]

3.2.7 Répercussions de la concurrence sur les tarifs

Les tarifs de British Telecom sont établis en fonction d'une formule de contrôle des prix (plafonnement des prix) qui fait en sorte que les majorations moyennes de prix de la compagnie ne soient pas, dans l'ensemble, supérieures au taux d'inflation moins 3 %, calculé après-coup. Au cours d'une année où British Telecom ne majore pas ses prix au niveau maximum, elle est autorisée, au cours des deux années suivantes, à augmenter les prix de manière à compenser le manque à gagner. Si le taux d'inflation est inférieur à 3 %, British Telecom n'est pas tenue de réduire l'ensemble de ses prix dans l'année en cours, mais elle doit le faire l'année suivante. Sous ce régime, à la fin de l'année financière se terminant le 6 mars 1988, British Telecom a obtenu un taux de rendement de 20,7 % sur le capital investi et, à compter du moins d'août 1989, l'ajustement de 3 % sur la formule du plafonnement des prix sera augmenté à 4,5 %.[60] Le tableau 3-25 présente un résumé des variations des tarifs interurbains de British Telecom intervenues entre novembre 1984 et novembre 1987. Pendant cette période, le prix des appels intérieurs de type "a" -- c'est-à-dire à destination d'un point situé jusqu'à 56 kilomètres à l'extérieur des zones d'appel locales -- a augmenté, pour les périodes de pointe comme pour les périodes à tarif réduit. Dans l'ensemble, les prix des appels intérieurs de type "b1" (c'est-à-dire à destination d'un point situé à plus de 56 kilomètres et acheminés par une route à faibles coûts et à forte densité) et des appels intérieurs de type "b" (c'est-à-dire tous les autres appels effectués à destination d'un point situé à plus de 56 kilomètres) ont diminué, sauf durant la période de "grand" rabais (en soirée). Les moyennes pondérées de ces variations révèlent une augmentation d'ensemble des prix pour 1984 et 1985, et une diminu-

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[57] Datapro Research Corporation, "The United Kingdom," Reports on International Telecommunications - Technologies, Markets, Environments, IT10-050-101, Delran, NJ, May 1987.

[58] Delta Bradstreet, "A Call to Battle," Marketing, 14 May 1987.

[59] Roger S. Turney (voir note 49).

[60] British Telecommunications plc, Supplementary Report, 1988, p. 6; et Telecom Highlights International, 20 July 1988, p. 10.

TABLEAU 3-25

Variations des tarifs des appels interurbains de British Telecom, 1984 à 1987

(Variation annuelle en pourcentage)

TYPE DE TARIF*	NOV. 1984	NOV. 1985	NOV. 1986	NOV. 1987**
Appels intérieurs de type "a"				
Périodes de pointe+	+6,8 %	+6,4 %	+1,6 %	Aucune
Périodes normales++	+6,8	+18,3	+1,1	Aucune
Périodes à tarif réduit+++	+23,1	+6,4	+2,7	Aucune
Appels intérieurs de type "b1"				
Périodes de pointe	+13,9	-13,9	-12,0	Aucune
Périodes normales	-10,2	-13,7	-12,0	Aucune
Périodes à tarif réduit	+6,8	+6,4	-12,0	Aucune
Appels intérieurs de type "b"				
Périodes de pointe	+14,0	-6,2	-16,0	Aucune
Périodes normales	-13,9	-4,9	-17,0	Aucune
Périodes à tarif réduit	+6,8	+6,4	-6,2	Aucune
Moyenne pondérée:	+2,0	+3,7	-0,3	

* Les appels intérieurs de type "a" sont acheminés vers un point n'excédant pas 56 kilomètres à l'extérieur des zones d'appel locales; les appels intérieurs de type "b1" sont acheminés sur des routes à faibles coûts et à forte densité vers un point situé à plus de 56 kilomètres; les appels intérieurs de type "b" comprennent tous les autres appels acheminés vers un point situé à plus de 56 kilomètres.

** Les tarifs des appels à compter de novembre 1987 sont les mêmes que ceux de l'année précédente.

\+ Périodes de pointe - 9 h à 13 h, du lundi au vendredi.

++ Périodes normales - 8 h à 9 h, et 13 h à 18 h, du lundi au vendredi.

+++ Périodes à tarif réduit - En tout autre temps.

SOURCE: Oftel, "Review of British Telecom's Tariff Changes, November 1986," Statement, November 1986, p. 10.

tion pour 1986. En novembre 1987, British Telecom a choisi de renoncer à sa révision annuelle des prix et a gelé les frais perçus sur les appels intérieurs automatiques et sur ceux acheminés par le téléphoniste.

Le tableau 3-26 présente une comparaison des tarifs interurbains pratiqués par British Telecom et Mercury en novembre 1987, pour un appel de cinq minutes à destination d'un point situé à moins de 56 kilomètres, et à plus de 56 kilomètres. Comme nous l'avons déjà mentionné, les tarifs de Mercury sont inférieurs à ceux de British Telecom et les tarifs pratiqués par Mercury pour les appels à destination d'un point situé à plus de 56 kilomètres sont de 16 à 28 % moins élevés que ceux de British Telecom.

Comme le révèlent ces deux tableaux, British Telecom et Mercury calculent leurs tarifs à partir d'une route à haute densité. Les routes définies par British Telecom comme des routes à haute densité ont un rapport direct avec la population desservie. Les prix des services acheminés sur ces routes sont considérablement moins élevés que sur les routes à faible trafic. Dans la plupart des cas, les routes à haute densité de British Telecom sont également desservies par Mercury. Alors que le permis de British Telecom l'oblige à desservir toutes les routes, celui de Mercury ne contient aucune obligation de ce genre, et Mercury peut donc choisir de ne desservir que les régions où elle estime que cela est rentable (routes à haute densité).

Au cours des dernières années, les tarifs des appels locaux de British Telecom ont augmenté sensiblement. C'est ce que révèle le tableau 3-27, qui illustre les variations des tarifs locaux pour la période 1984 à 1987. En 1984, 1985 et 1986, le prix d'un appel local a augmenté pour chaque catégorie de période d'appel (période de pointe, normale et à tarif réduit), sauf en 1986 pour la période "à tarif réduit". Début 1986, Mercury a commencé à offrir, dans la cité de Londres, son premier service local, essentiellement destiné aux abonnés du service d'affaires. Les tarifs de Mercury sont uniformément inférieurs à ceux de British Telecom. Par exemple, le tarif d'un appel d'une durée minimum (0 à 60 secondes) effectué en période de pointe est de trois pence chez Mercury, contre cinq chez British Telecom. Il faut quand même noter que British Telecom a réduit son tarif à 4,4 pence en mars 1986, ce qui a réduit légèrement l'écart.

Dans le contexte de sa formule de contrôle des prix, British Telecom a rééquilibré ses tarifs. En règle générale, tel qu'il est signalé ci-dessus, les tarifs interurbains au R.-U. ont diminué et les tarifs locaux, augmenté. Selon l'évaluation d'Oftel, au 31 mars 1986, "les frais d'appels locaux et les frais d'appels nationaux sont presque équilibrés".[61] Le rééquilibrage s'est produit pour deux raisons : premièrement, les progrès techniques ont réduit les coûts réels de la prestation de services interurbains dans une bien plus grande mesure que ceux des services locaux; deuxièmement, on a permis qu'un déséquilibre se produise à l'époque où British Telecom était une société d'État et que l'on estimait que les

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[61] Oftel, "Review of British Telecom's Tariff Changes, November 1986," A report issued by the Director General of Telecommunications, Statement, November 1986, para. 112.

TABLEAU 3-26

Tarifs des appels interurbains de British Telecom et Mercury - Novembre 1987*

(Prix d'un appel de cinq minutes, en pence)

DISTANCE	PÉRIODES DE POINTE			PÉRIODES NORMALES			PÉRIODES À TARIF RÉDUIT		
	BT	MD**	MI+	BT	MD	MI	BT	MD	MI
Appels à moins de 56 km	51	45++	48++	38.4	34++	37++	13.2	12++	12.5++
Appels à plus de 56 km	59++	51++	56++	44++	38++	42++	22++	20++	18++

* Aucun de ces prix ne tient compte de la taxe de 15 % sur la valeur ajoutée.

** Mercury, branchement direct.

\+ Mercury, branchement indirect.

++ Sur les routes à haute densité.

SOURCES: British Telecommunications plc, "Summary of Charges for Telecommunications Services," November 1987; et Mercury Communications Limited, "Public Switched Network Charges," November 1987.

TABLEAU 3-27

Sommaire des variations des tarifs locaux de British Telecom de 1984 à 1987*

(Variation annuelle en pourcentage)

PÉRIODE TARIFAIRE	NOVEMBRE 1984	NOVEMBRE 1985	NOVEMBRE 1986	NOVEMBRE 1987
Périodes de pointe	+6,8 %	+6,4 %	+18,9 %	Aucune
Périodes normales	+6,8	+6,4	+6,4	Aucune
Périodes à tarif réduit	+6,8	+6,4	-3,6	Aucune

* Service tarifé à l'utilisation. Voir le tableau 3-25 pour une explication des périodes de pointe, normales et à tarif réduit. Les frais mensuels d'accès par ligne et de location d'équipement ne sont pas inclus.

SOURCE: Oftel, "Review of British Telecom's Tariff Charges, November 1986," Statement, November 1986.

revenus provenant des appels interurbains devaient subventionner les frais de location de lignes locales.

3.3 Concurrence dans la prestation du service téléphonique interurbain public au Japon

Cette section met en lumière les témoignages relatifs à l'évolution de la concurrence au Japon. La plus grande partie des travaux de recherche ont été effectués par les chercheurs affectés au Groupe de travail. En outre, des renseignements précieux ont été obtenus auprès du professeur H.N. Janisch, de la Faculté de droit de l'Université de Toronto.

3.3.1 Changements apportés à la structure monopolistique

Suite à l'occupation américaine du Japon, le gouvernement japonais décidait, en 1952, de donner à l'industrie des télécommunications la structure publique suivante :

1) la responsabilité des politiques relatives aux communications est confiée au ministre des postes et des télécommunications (MPT);

2) la compagnie Nippon Telegraph and Telephone Public Corporation (NTT) est créée : il s'agit d'une société d'État à laquelle est confiée la responsabilité exclusive des services de télécommunications intérieurs;

3) la société Kokusai Denshin Denwa Company, Limited (KDD), monopole réglementé par le gouvernement, est chargée des activités internationales de télécommunications. (NTT acquiert un intérêt de 10 pour cent dans la société KDD).

Le 1er avril 1985, les Japonais ont mis un terme à cette structure monopolistique en adoptant trois lois de réforme des télécommunications. La première, la Telecommunications Business Law, portait création d'une structure industrielle concurrentielle au Japon. La deuxième, la NTT Corporation Law, réorganisait NTT en une nouvelle compagnie privée. La troisième loi de réforme abolissait ou modifiait d'autres lois connexes.

La décision de libéraliser la concurrence n'est pas survenue soudainement dans l'évolution du système japonais des télécommunications. En effet, avant 1985, le Japon libéralisait la vente des équipements d'abonnés autres que les appareils téléphoniques de base pour chaque ligne d'abonné, et ouvrait à la concurrence le réseau téléphonique public de communication des données. Par ailleurs, les abonnés s'étaient mis à exiger des services de plus en plus perfectionnés et diversifiés, offrant une combinaison de fonctions de télécommunication et d'information.

Un rapport publié par NTT, avant l'adoption des lois précitées, explique certaines des raisons qui ont présidé au passage d'une structure monopolistique à une

structure industrielle concurrentielle.[62] Dès le début des années 1980, NTT estimait avoir atteint deux objectifs-clés, à savoir l'élimination des arriérés de commandes de service téléphonique en instance, et la mise en place d'un système automatique couvrant l'ensemble du territoire national. Le rapport indiquait que, grâce aux nouveaux progrès réalisés dans les domaines des fibres optiques, des satellites de communication et des technologies d'interface, les caractéristiques naturelles des entreprises de télécommunications à la monopolisation semblaient s'atténuer. De plus, NTT doutait que l'avènement de la concurrence dans l'industrie des télécommunications puisse avoit "un effet négatif grave". NTT affirmait plus loin dans son rapport :

> Compte tenu de ces changements et du fait que les monopoles présentent certains défauts intrinsèques, et notamment une certaine tendance à l'auto-satisfaction, il est temps d'effectuer une transition vers un système non monopolistique.[63]

S'il était à craindre que les concurrents de NTT cherchent à s'approprier les seuls marchés lucratifs des routes à haute densité, et que les abonnés du service d'affaires tournent vers les nouveaux venus sur le marché, avec les répercussions financières graves que cela aurait pour NTT nouvelle formule, la solution était, selon NTT elle-même, de devenir une compagnie efficacement compétitive et déployer tous les efforts possibles pour saisir davantage les occasions commerciales et mieux répondre aux besoins des abonnés. Par exemple, compte tenu de sa situation financière ainsi que des tendance de la demande, il a été jugé nécessaire de modifier la structure de la tarification de NTT.[64]

3.3.2 Nouvelle structure industrielle

On trouvera au tableau 3-28 une description du cadre général de la Telecommunications Business Law (Loi sur les entreprises de télécommunications). Cette nouvelle loi classe les entreprises de télécommunications en deux catégories, à savoir les télécommunicateurs de type I et les télécommunicateurs de type II :

- les télécommunicateurs de type I fournissent des services de télécommunications au moyen de de leurs propres installations de circuits;
- les télécommunicateurs de type II fournissent des services de télécommunications en utilisant les installations de circuits des télécommunicateurs de type I.

Les télécommunicateurs de type II sont subdivisés en deux catégories : les télécommunicateurs spécialisés de type II, qui ont des activités à grande échelle

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[62] Nippon Telegraph and Telephone Public Corporation (NTT), "Telecommunications Reform and NTT Privatization," NTT Publication G-115, February 1985.

[63] Ibid., p. 2.

[64] Ibid.

TABLEAU 3-28

Cadre général de la Telecommunications Business Law

CLASSIFICATION		TYPE D'ENTREPRISE		PROCÉDURE D'ENTRÉE	CONTRÔLE DES TARIFS	PROPRIÉTÉ ÉTRANGÈRE
Télécommunicateurs de type I		Fournissent des services de télécommunications à partir de leurs propres installations de circuits		Autorisation	Approbation	Moins d'un tiers, sauf pour NTT et KDD
Télécommunicateurs de type II	Tél. spécialisés de type II	Fournissent des services de télécommunications en acquérant les installations de circuits des télécommunicateurs de type	Tél. de type II ont des activités sur une certaine échelle avec un grand nombre d'utilisateurs et offrent des services entre le Japon et des points à l'étranger	Immatriculation	Avis	Aucune réglementation
	Tél. généraux de type II		Tél. autres que les tél. spécialisés de type II	Avis	Aucune réglementation	

SOURCE: Yasuo Koseki (KDD), "Development of Japan's Telecommunications Business Law," PTC Quarterly, Vol.8, No.2/3, October 1987, tableau 1.

au niveau national ou offrent des services entre le Japon et des points situés à l'étranger; et les télécommunicateurs généraux de type II (à savoir les télécommunicateurs autres que les télécommunicateurs spécialisés de type II).

Les contrôles exercés au niveau de l'entrée et des tarifs varient selon le type des télécommunicateurs. Les télécommunicateurs de type I doivent obtenir du ministère des Postes et Télécommunications l'autorisation de construire leurs propres installations de télécommunications. Les télécommunicateurs spécialisés de type II doivent être immatriculés auprès du ministère, alors que les télécommunicateurs généraux de type II sont uniquement tenus d'aviser le ministère de leur intention de fournir le service. De la même façon, les contrôles exercés au niveau des tarifs ne sont pas les mêmes : les télécommunicateurs de type I doivent faire approuver leurs tarifs, les télécommunicateurs spécialisés de type II doivent en notifier les autorités et les télécommunicateurs généraux de type II ne sont assujettis à aucune réglementation.

Pour ce qui est des prises de participation étrangères, la loi stipule que le tiers, au plus, des actions d'un télécommunicateur de type I pourra être détenu par des étrangers, sauf pour les compagnies NTT et KDD, dont aucune des actions ne peut être acquise par des étrangers. Par contre, la loi ne prévoit aucune restriction à la prise de participation par des étrangers dans des entreprises de télécommunications du type II.

Comme nous l'avons vu, l'entrée en vigueur de la Telecommunications Business Law a coïncidé avec l'adoption de la loi sur la société NTT, faisant de cette dernière une société privée. L'intention déclarée du gouvernement était de vendre ses parts en plusieurs étapes, ce qu'il fit dès la fin 1986, en vendant le un-huitième de sa participation dans NTT. Le gouvernement a néanmoins déclaré qu'il garderait au moins le tiers de ses actions de NTT.

Avec la libéralisation de l'industrie des télécommunications et la privatisation de NTT, le Japon s'est, petit à petit, transformé en un marché ouvert à la concurrence. Pourtant, il faut noter que NTT est le seul télécommunicateur légalement tenu d'assurer un service téléphonique universel -- rural et local -- dans l'ensemble du pays. Pour qualifier, en quelques mots, le climat de réglementation qui a suivi l'adoption des nouvelles lois gouvernant les télécommunications japonaises, on peut dire qu'il existe une concurrence réglementée, assortie des restrictions d'entrée à l'endroit des télécommunicateurs exploitant leurs propres installations, et une concurrence non réglementée et pratiquement sans restriction, à l'endroit des revendeurs.

3.3.3. Nature et portée de l'entrée sur le marché

3.3.3.1 Télécommunicateurs de type I

À la fin de 1987, il y avait 31 télécommunicateurs de type I autorisés au Japon. De ceux-ci, 18 étaient des entreprises de télé-appel. Les 13 compagnies restantes comprenaient NTT, KDD, trois télécommunicateurs par relais, quatre télécommunicateurs régionaux, deux télécommunicateurs par satellite et deux télécommunicateurs internationaux. Les compagnies en question sont énumérées

au tableau 3-29. Ce tableau indique également la date à laquelle elles ont reçu du ministère japonais des Postes et des Télécommunications l'autorisation de construire leurs propres installations de télécommunications, la nature des services offerts et la date réelle ou prévue de la mise en marche des différentes catégories de services.

NTT offre une gamme complète de services de télécommunications. Depuis sa privatisation, NTT a rationalisé ses opérations, et compte aujourd'hui 17 centres de profit, dont le Secteur du réseau de télécommunications, la Division des équipements d'abonnés, la Division de l'annuaire des télécommunications, le Secteur des services avancés de télécommunications, le Secteur des communications de données et enfin 11 régions de services téléphoniques.[65]

Les trois nouveaux télécommunicateurs par relais sont les compagnies Daini Denden Inc. (DDI), Japan Telecom Co. et Teleway Japan Corp. La compagnie Daini Denden (dont le nom signifie littéralement "compagnie de téléphone numéro deux") a commencé à offrir des services de lignes louées en octobre 1986, par le truchement de son système par micro-ondes, le long du couloir Tokyo-Nagoya-Osaka. Les services de cette compagnie comprennent des services généraux de lignes louées ainsi que des services de transmission numérique à grande vitesse. Depuis septembre 1987, elle offre des services téléphoniques dans 12 régions métropolitaines. Quant à la compagnie Japan Telecom, c'est en août 1986 qu'elle a commencé à offrir des services de lignes louées, par le truchement de câbles de fibres optiques longeant le parcours du train à grande vitesse de Tokaido. À l'heure actuelle, les services de lignes louées de Japan Telecom sont disponibles dans 11 régions métropolitaines, et notamment à Tokyo, Osaka et Kyoto. La gamme des services offerts est un peu plus large que celle de la compagnie DDI, puisqu'elle inclut les services de transmission vidé. Depuis septembre 1987, Japan Telecom assure des services téléphoniques dans 19 régions métropolitaines voisines du parcours du train à grande vitesse de Tokaido. Enfin, Teleway Japan exploite également des fibres optiques, mais ses installations se trouvent le long de deux des principales autoroutes nationales. Ses services sont actuellement disponibles dans 10 régions métropolitaines. Il s'agit de services de transmission analogique, numérique, numérique à grande vitesse et vidéo. Un service téléphonique est disponible depuis 1987 dans 15 régions métropolitaines situées le long des deux autoroutes mentionnées.

Pour ce qui est des télécommunicateurs régionaux, la compagnie Tokyo Telecommunications Network Inc. (TTNet) exploite à Tokyo, et dans plusieurs autres régions métropolitaines, des services de circuits loués utilisant des câbles de fibres optiques et d'autres installations. TTNet offre des services de transmission analogique et numérique à grande vitesse et prévoit assurer un service téléphonique dans la région de Kanto, à partir de mai 1988. La compagnie Osaka Media Port Corp. (OMP) a commencé, en mars 1987, à offrir des services de

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[65] Avec le démantèlement d'AT&T, la NTT est devenue la compagnie de téléphone la plus importante au monde. En 1986, ses revenus d'exploitation se chiffrant à 28,3 milliards de dollars, son actif à 63 milliards et elle comptait plus de 300 000 employés. Voir NTT, Annual Report 1986.

TABLEAU 3-29

Nouveaux télécommunicateurs de type I

NOM DE LA COMPAGNIE	DATE de L'AUTORISATION	SERVICES OFFERTS	ENTRÉE EN SERVICE
1. Télécommunicateurs par relais			
Daini Denden Inc.	85/6/21	Services téléphoniques interurbains et services loués	86/10/24 (Services loués) 87/ 9/ 4 (Services téléphoniques interurbains)
Japan Telecom Co.	85/6/21	Services téléphoniques interurbains et services loués	86/ 8/ 1 (Services loués) 87/ 9/ 4 (Services téléphoniques interurbains
Teleway Japan Corp.	85/6/21	Services téléphoniques interurbains et services loués	86/11/11 (Services loués) 87/ 9/ 4 (Services téléphoniques interurbains)
2. Télécommunicateurs régionaux			
Tokyo Telecommunications Network Co., Inc.	86/ 8/ 8	Services téléphoniques et services loués	86/11/ 1 (Services loués)
Lake City Cablevision	86/12/12	Services loués	87/10/ 1 (Services loués)
Osaka Media Port Corp.	86/12/12	Services loués	87/ 3/ 1 (Services loués)
Chubu Telecommunications Co.	87/12/21	Services loués	88/ 6/ 1 (Services loués)
3. Télécommunicateurs par satellite			
Japan Communications Satellite Co.	85/ 6/21	Services loués	89 (Services loués)
Space Communications Corp.	85/ 6/21	Services loués	89 (Services loués)
4. Télécommunicateurs internationaux			
International Telecom Japan, Inc.	87/11/30	Services téléphoniques internationaux et services loués	89/ 4 (Services loués) 90/ 2 (Services téléphoniques)
International Digital Communications Inc.	87/11/30	Services téléphoniques internationaux et loués	89/ 5 (Services loués) 89/10 (Services téléphoniques)

SOURCE: New Era in Telecommunications in Japan, No.55, 1 January 1988.

circuits loués par câbles de fibres optiques et par câbles en doubles paires dans la ville d'Osaka et dans neuf villes environnantes. Elle propose des services généraux de circuits loués ainsi que des services de transmission numérique à grande vitesse et de transmission vidéo. La compagnie Lake City Cablevision (LCV) a mis en service en octobre 1987 un système de circuits loués dans la ville de Suwa et dans les municipalités environnantes. Dans la région de Chubu, la compagnie Chubu Telecommunications Co., une filiale de Chubu Electric Power Co., entendait offrir des services loués en juin 1988.

Aucun des deux télécommunicateurs par satellite autorisés n'offre encore de service. (Leurs projets ont été passablement retardés par la catastrophe de la navette spatiale américaine.) La compagnie Japan Communications Satellite Co. (JCSAT) se propose de desservir l'essentiel du territoire japonais avec deux satellites et compte offrir ses services en 1989. La compagnie Space Communications Corp. (SCC) prévoit également desservir la majeure partie du territoire japonais avec deux satellites. Elle compte aussi être opérationnelle au courant de 1989.

Dans le domaine des télécommunications internationales, la compagnie KDD continue d'assurer une gamme complète de services. Tout comme NTT, KDD a entrepris une réorganisation d'envergure, en prévision de l'arrivée de la concurrence. L'accent a été mis sur l'aspect commercialisation et une nouvelle administration de la commercialisation et des ventes ainsi qu'un nouveau bureau de la stratégie et de la planification d'entreprise ont été créés. La compagnie International Telecom Japan Inc. (ITH) envisage de proposer des services téléphoniques et des services de circuits loués entre le Japon et neuf autres pays, essentiellement par le truchement d'INTELSAT et du câble trans-pacifique n°3 (TPC-3). Ses services téléphoniques devraient commencer en 1990 et faire suite à la mise en service des circuits loués, prévue pour 1989. La compagnie International Digital Communications Planning Inc. (IDC) nourrit des projets similaires, mais elle prévoit desservir un plus grand nombre de pays. Elle envisage d'offrir un service téléphonique dès octobre 1989, après avoir lancé ses services de circuits loués, plus tôt au cours de cette même année.

Bien qu'il semble qu'au Japon, la première vague des nouveaux télécommunicateurs soit passée, on peut s'attendre à voir arriver sur le marché un grand nombre de nouveaux télécommunicateurs régionaux.[66] En effet, les entreprises régionales

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[66] De plus, la Railway Communications Co. a été établie par un investissement conjoint de chacune des compagnies ferroviaires (qui a été remplacée par la Japan National Railway), et elle a pris le contrôle du réseau de télécommunications de base anciennement construit par la JNR. Voir "Telecommunications in Review : 1987 Highlights," New Era in Telecommunications in Japan, No. 55, 1 January 1988. (Cet article est basé sur des données fournies par le Telecommunications Bureau of the Ministry of Posts and Telecommunications.)

d'électricité, en particulier, se sont montrées intéressées à offrir des services de télécommunications.[67]

3.3.3.2 Télécommunicateurs de type II

En novembre 1987, le Japon comptait 17 télécommunicateurs spécialisés de type II et 452 télécommunicateurs généraux de type II. Le tableau 3-30 en dresse la liste. Les catégories de services offerts par ces télécommunicateurs sont essentiellement des services nationaux de transmission de données ou de commutation par paquets, des services de revente des circuits sur le marché intérieur et des services téléphoniques commutés assurés par le truchement de réseaux loués. Nombre de ces télécommunicateurs sont des exploitants de réseaux à valeur ajoutée (RVA) -- c'est-à-dire qu'ils offrent une valeur ajoutée par rapport aux installations de transmission de base louées aux télécommunicateurs de type I. La refonte partielle de la Loi sur les entreprises de télécommunications, le 1er septembre 1987, a permis à certains télécommunicateurs spécialisés de type II de se lancer dans l'exploitation des RVA, au niveau international. Le tableau 3-30 donne la liste des 10 entreprises immatriculées comme exploitant un RVA au niveau international. Le 18 décembre 1987, deux d'entre elles -- a savoir la NC Corporation et la Network Information Service Co., Ltd. -- ont commencé à offrir des services internationaux de RVA. Les huit autres comptaient entrer en service le 1er janvier 1988. Pour le moment, une entente a été conclue avec les États-Unis et des discussions sont en cours avec le Royaume-Uni pour la prestation de services internationaux de RVA. Le Japon envisage de conclure des ententes semblables avec de nombreux autres pays.

Le tableau 3-31 montre la répartition géographique des 452 télécommunicateurs généraux de type II. Bien qu'ils soient disséminés dans l'ensemble du Japon, près de la moitié d'entre eux sont basés à Tokyo ou près de cette ville. Le tableau 3-32 présente les catégories de services offerts. Environ 60 % offrent des services de transmission de données et la majorité proposent des services intégrés de RVA, c'est-à-dire combinant RVA et traitement des données. Pour ce qui est des services de transmission de la parole offerts par les télécommunicateurs généraux de type II, il s'agit essentiellement de services de lignes louées ou de courrier transmis par la parole, de sorte qu'ils ne constituent pas des concurrents importants dans le marché des services interurbains commutés. Quant aux services de transmission vidéo offerts par ces télécommunicateurs, il s'agit surtout de télécopie et de vidéotex.

3.3.4 Répercussions de la concurrence sur les tarifs

Avant l'arrivée de la concurrence au Japon, la structure de la tarification de NTT se caractérisait par des écarts de prix importants entre services locaux et interurbains. Dans un article rédigé en 1987, les économistes Nambu, Suzuki et Honda émettaient la possibilité d'un interfinancement des services locaux par les services interurbains. Voici ce qu'ils écrivaient :

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[67] Ibid., p. 5.

TABLEAU 3-30

Télécommunicateurs spécialisés*

NOM DE LA COMPAGNIE	ENDROIT	SERVICES OFFERTS	ZONE DESSERVIE	DATE D'IMMATRICULATION
INTEC Inc.	Toyama	Parole Vidéo Données	Territoire national	85/4/19
Fujitsu Ltd.	Kawasaki	Données	Territoire national	85/4/19
Japan Information Service, Ltd.**	Osaka	Données	Territoire national É.-U.	85/4/19
NEC Corporation**	Tokyo	Parole Vidéo Services intégrés	Territoire national É.-U.	85/4/19
Hitachi Information Network Ltd.**	Tokyo	Données	Territoire national É.-U.	85/4/19
United Net Corp.	Tokyo	Parole Vidéo Données Services intégrés	Territoire national	85/5/24
Japan ENS Corporation**	Tokyo	Données Parole	Territoire national É.-U.	85/7/17
OKI Network Service	Tokyo	Parole Vidéo Données	Territoire national	85/7/31
Network Information Service Co., Ltd.**	Tokyo	Parole Vidéo Données	Territoire national É.-U.	85/11/25
Internetwork Inc.	Tokyo	Données	Territoire national	86/10/15
Nippon Information and Communications Corp.	Tokyo	Parole Vidéo Données	Territoire national É.-U.	87/7/20
Japan Global VAN Inc.*	Tokyo	Vidéo Données	Territoire national É.-U.	87/9/29
Nomura Computer Systems Co.**	Tokyo	Données	Territoire national É.-U.	87/10/9
Mitsui Knowledge Industry Co.**	Tokyo	Données	Territoire national É.-U.	87/10/19
IBM Japan**	Tokyo	Données	Territoire national É.-U.	87/10/27
Nihon Keizai Shimbun Inc.**	Tokyo	Vidéo Données	Territoire national É.-U.	87/10/31
Toyo Information Systems Co.	Osaka	Données	Territoire national	87/11/27

* Au 30 novembre 1987.

** Indique l'immatriculation comme exploitant un RVA au niveau international.

SOURCE: New Era in Telecommunications in Japan, No.55, 1 January 1988.

TABLEAU 3-31

Répartition géographique des télécommunicateurs généraux de type II - selon l'endroit où se trouve le bureau principal*

RÉGION	NOMBRE DE COMPAGNIES	RÉGION	NOMBRE DE COMPAGNIES
Hokkaido	29	Kinki (Osaka)	66 (54)
Tohoku	21	Chugoku	26
Kanto (Tokyo)	197 (168)	Shikoku	12
Shinetsu	17	Kyushu	28
Tokai	38	Okinawa	3
Hokuriku	15	TOTAL	452

TABLEAU 3-32

Services offerts par les télécommunicateurs généraux de type II*

SERVICES	NOMBRE DE COMPAGNIES
Transmission de la parole	112
Transmission vidéo	71
Transmission de données	342
Services intégrés	60

* Au 30 novembre 1987.

SOURCE: New Era in Telecommunications in Japan, No. 55, 1 January 1988.

Le prix du service interurbain a diminué d'environ 40 % entre 1977 et 1984, mais on estime qu'il est encore bien supérieur au niveau moyen des coûts. Par contre, on considère que l'abonnement de base ainsi que le prix des appels locaux sont bien inférieurs aux coûts moyens.

En 1984, les revenus totaux de NTT se sont chiffrés à 4,750 milliards de yen. Les revenus provenant des appels téléphoniques, des abonnements de base et des services de lignes directes ont été de 2,500 milliards, 990 milliards et 380 milliards de yen, respectivement. Les revenus des appels interurbains ont représenté plus de 76 % des revenus totaux des appels téléphoniques. Pourtant, le volume des appels interurbains ne représentait que 27 % du volume total des appels.

Ces faits nous permettent de conclure à l'interfinancement des services locaux par les services interurbains. Les revenus provenant des abonnements de base et des appels locaux ne représentaient que 33 % des revenus totaux enregistrés en 1984, alors qu'avant le démantèlement d'AT&T, ce ratio était d'environ 42 %.[68]

Ces auteurs déclarent que NTT est très vulnérable à la concurrence à cause du pourcentage élevé de revenus provenant d'un petit nombre d'abonnés. Plus précisément, 30 % des revenus de NTT viennent de 5 % du total des abonnés et 56 % des revenus viennent de 12 % du total des abonnés, de sorte que NTT pourrait être sensiblement touchée par la perte de quelques (grands) abonnés au profit de concurrents. Malgré cela, NTT a refusé d'imposer des frais d'accès aux nouveaux télécommunicateurs pour compenser tout manque à gagner éventuel sur les services locaux. Les frais d'accès au réseau local commuté de NTT sont exclusivement basés sur les coûts directs.

L'orientation du Japon vers la concurrence est attribuable aux facteurs suivants: l'établissement d'un réseau de télécommunications à technologie de pointe; l'appui des Japonais en général à un mouvement vers une société "informatisée"; un engagement à l'égard de l'universalité du service; et la croissance phénoménale des appels téléphoniques. On estime que le nombre total d'appels téléphoniques composés au Japon en 1986 s'est élevé à 71,1 milliards, soit une hausse de 13,6 % par rapport à 1985. Au total, près de 135 millions d'appels interurbains internationaux ont été faits en 1987, soit une augmentation de 70 % par rapport à 1986.[69] L'approche des Japonais à la concurrence repose sur la conviction que les concurrents offriront des services plus variés et élargiront le marché national

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[68] Tsuruhiko Nambu, Kazuyyki Suzuki and Tetsushi Honda, "Competition and Government Policy in the Japanese Telecommunications Industry," Mimeograph, 1 May 1987, pp. 15–16.

[69] "Communications in Japan", New Era in Telecommunications in Japan, No. 56, 15 January 1988, pp. 1–2. Pour une indication du genre du taux de croissance associé à l'introduction de la concurrence, voir l'augmentation des ventes de service de lignes louées en 1987 (de 6,7 % à 9,5 %). Également No. 57, 1 February 1988, p. 3.

des télécommunications, de sorte que tous pourront grandir ensemble.[70] NTT elle-même décrit ainsi ce scénario de "gâteau grandissant" :

> De nouveaux concurrents ont rapidement surgi précisément à cause des nombreuses et attrayantes perspectives d'affaires dans le domaine des télécommunications, à l'heure actuelle mais surtout dans l'avenir. L'expansion globale du marché donnera à NTT un plus grand champ d'action pour utiliser de manière optimale ses capacités générales. En profitant de ces occasions avec dynamisme, nous nous attendons fermement à maintenir notre position de prédominance dans l'industrie japonaise des télécommunications.[71]

On estime que les nouveaux venus sur le marché pourraient avoir des tarifs beaucoup plus bas que ceux de NTT. Par exemple, un commentateur américain a conclu comme suit :

> À l'heure actuelle, un appel d'une durée de 15 minutes entre Tokyo et Osaka, pendant la période où les tarifs sont les plus bas, coûte environ 2,000 yen. Les compagnies indépendantes estiment qu'elles peuvent encore réaliser un profit en proposant ce même service pour 400 yen.[72]

En pratique, comme le fait remarquer M. Yusai Okuyama, Directeur général des télécommunications au ministère des Postes et des Télécommunications, la guerre des tarifs n'a pas été si dramatique que ça :

> Vu les initiatives prises récemment par les entreprises de services, nous constatons une baisse générale des coûts des communications. Les trois nouveaux télécommunicateurs ... proposent des tarifs en moyenne 20 % moins élevés que ceux de NTT. De son côté, en août 1987, NTT a diminué de 10 % le tarif de ses services de lignes louées, pour rester compétitive par rapport aux trois nouveaux venus.[73]

De plus, NTT a déclaré que, si les frais téléphoniques perçus des nouveaux télécommunicateurs se situaient à 24 % des siens, elle n'exigera pas de frais

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[70] Larry Lannon, "NTT Jostles Through a Tough Period," Telephony, 22 February 1988, p. 35.

[71] NTT, Annual Report 1986, p. 5.

[72] William H. Davidson, "Japanese Telecommunications Policy, New Directions and Old Dilemmas," Telecommunications Policy, June 1987, p. 156.

[73] "Results of Liberalization and Future Problems in Japan," New Era in Telecommunications in Japan, Vol. 57, 1 February 1988, p. 3.

d'accès de leur part.[74] Au Japon, la somme de problèmes posés, notamment par le rééquilibrage des tarifs de NTT, les frais d'accès et les pratiques de prix excessives, n'échappe à personne, mais on n'estime pas obligatoire de les résoudre avant que n'interviennent les changements jugés nécessaires à la stimulation du marché des télécommunications. Au contraire, on a tendance à penser qu'une concurrence réglementée comme celle qui est décrite plus haut vaut encore mieux qu'un monopole. Bien qu'il n'existe pas encore de données précises sur les parts du marché, peu de choses laissent prévoir de l'inquiétude à cause de répercussions défavorables. Ainsi, on s'est surtout efforcé jusqu'ici de continuer à livrer concurrence en fonction de la structure actuelle de l'industrie, plutôt que d'apporter d'importantes modifications de politique.

3.4 Politiques et activités de l'Europe à l'égard de la concurrence dans le domaine des télécommunications

Voici un bref aperçu des politiques et des activités de l'Europe occidentale continentale concernant la concurrence dans le domaine des télécommunications. Le Groupe de travail estime qu'une description de la démarche européenne, bien que cette dernière ne fasse pas partie de son mandat, serait utile aux ministres.

3.4.1 Structure traditionnelle de l'industrie

Historiquement parlant, l'industrie européenne des services de télécommunications s'est caractérisée par l'existence de monopoles d'État réglementés, collectivement appelés administrations des PTT (Postes, Téléphone et Télégraphe). Dans la plupart des pays d'Europe, les PTT sont chargés de s'autoréglementer et d'élaborer les politiques nationales relatives aux télécommunications; les PTT détiennent un monopole sur pratiquement toutes les catégories d'équipements d'abonnés; exploitent les services; favorisent les industries nationales dans le domaine des approvisionnements en équipement; et, de façon générale, empêchent les utilisateurs d'installer leurs propes systèmes de transmission, de brancher leurs lignes louées sur le réseau public ou encore de partager leurs lignes louées.

3.4.2 Pressions pour et contre la concurrence

Aujourd'hui, les PTT européennes ne réagissent pas de la même façon aux pressions favorables au changement. Si certains commencent à peine à l'envisager, d'autres traversent une période de transition, soit qu'ils cherchent à renforcer leur monopole, soit qu'ils tentent l'expérience d'une certaine libéralisation. Pour le moment, l'Europe est occupée à observer et à évaluer les tendances de la concurrence et de la déréglementation au Japon, au Royaume-Uni et aux États-Unis. Plusieurs pays sont aux prises avec des problèmes politiques,

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[74] "NTT Not Intending To Levy Access Charges on NCC's At Present," New Era in Telecommunications in Japan, No. 41, 1 June 1987, p. 8. Annonçant cette politique, M. Shinto, alors président de la NTT, a indiqué, [TRADUCTION] "...si les frais de téléphone que les nouveaux télécommunicateurs perçoivent sont raisonnables comme, 20 p. 100 de moins que ceux de NTT, alors NTT ne leur imposera pas de frais d'accès."

industriels et économiques et envisagent de modifier leurs politiques de télécommunications. Par exemple, certains groupes d'utilisateurs exercent des pressions croissantes auprès de leur gouvernement et des administrations responsables des télécommunications, dans le but de mettre sur pied une infrastructure de communication harmonieuse et paneuropéenne, de créer un marché européen des télécommunications unique, d'accroître la concurrence au niveau des services autres que les services publics commutés de transmission de la parole, de réaliser l'interconnexion des circuits privés et des réseaux publics, de bénéficier de services compétitifs à valeur ajoutée, de tarifs non discriminatoires et d'équipements terminaux tout à fait concurrentiels et enfin, de séparer les activités d'exploitation et de réglementation des administrations des PTT.

Les pays européens sont en train d'étudier les recommandations formulées par la Commission des communautés européennes (CCE) dans son livre vert de juin 1987.[75] La CCE constate que les progrès technologiques ont pour effet de gommer les distinctions entre le secteur des communications et celui de l'informatique, et que la technologie des satellites annule les frontières entre services intérieurs et internationaux, le tout créant de nouvelles occasions d'affaires, tant pour le secteur public que privé. En conséquence, la CCE encourage les états membres à opter pour une concurrence plus libre et à libéraliser la fourniture de la plupart des équipements terminaux, des services à valeur ajoutée et de certains services de communication par satellite. La CCE incite, en outre, les états membres à réviser leur réglementation en matière de télécommunications intérieures, puisque c'est là que se rencontrent le secteur de l'informatique, fonctionnant en régime concurrentiel, et celui des télécommunications, dominé par un monopole d'État.

Si plusieurs pays d'Europe occidentale sont occupés à évaluer les implications et les répercussions d'une nouvelle réglementation du monopole des PTT, à améliorer leurs opérations et à permettre une concurrence limitée dans des domaines bien précis, ils n'en agissent pas moins avec prudence et lenteur, et les signes de résistance au changement ne manquent pas. Pratiquement toutes les administrations chargées des PTT en Europe reconnaissent que leurs pays n'ont ni l'envergure géographique, ni les ressources économiques et démographiques nécessaires pour appuyer la prestation de services plus compétitifs. Pour le moment, il n'est pas question que les pays d'Europe occidentale retirent aux administrations responsables des télécommunications leur monopole traditionnel en matière de téléphonie vocale. Une autre opinion fréquemment exprimée consiste à dire que seul un monopole des PTT peut aider les fabricants nationaux d'équipements de télécommunications et maintenir le pays à flot sur le plan technologique, en consentant plus d'efforts à la recherche et au développement que cela ne serait le cas dans un contexte de concurrence. Sont également partisans du maintien du monopole des PTT, tous ceux qui estiment que seul un réseau monopolistique contrôlé par les PTT peut procéder aux économies des coûts et aux améliorations de la qualité qu'exige l'ère de la numérisation.

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[75] Commission of European Communities (CEC), "Green Paper on the Development of the Common Market for Telecommunications Services and Equipment," COM (87) 290, Summary Report, June 1987.

3.5 Résumé des expériences étrangères

Les États-Unis, le Royaume-Uni et le Japon ont adopté des démarches différentes relatives à l'implantation de la concurrence dans la prestation du service téléphonique interurbain public. Les principaux éléments de la démarche américaine incluent l'établissement de LATA et l'élaboration par la FCC de son plan de frais d'accès. Une LATA se définit comme étant une région englobant généralement un grand centre démographique (dans certains cas, un état entier) au sein duquel les compagnies de téléphone peuvent être exploitées sur une base monopolistique pour la prestation de services locaux et interurbains intraLATA. (Certains états ont récemment entrepris de permettre la concurrence intraLATA.) Les compagnies de téléphone locales sont obligées de fournir aux télécommunicateurs interurbains autorisés l'accès aux abonnés, de sorte qu'ils puissent offrir leurs services partout dans la LATA. Le plan de frais d'accès de la FCC et certains régimes élaborés par certains organismes d'État ont pour objet de faire en sorte que les compagnies de téléphone locales soient dédommagées de leur obligation de fournir l'interconnexion aux télécommunicateurs interurbains concurrentiels et qu'il y ait un flot constant de fonds à l'appui de la prestation du service téléphonique de base. Ainsi, la démarche américaine tente de protéger les compagnies de téléphone des répercussions possibles de la concurrence, tout en rendant les services concurrentiels généralement disponibles partout au pays. Aux É.-U., les organismes de réglementation ont pour la plus grande part choisi de réglementer uniquement AT&T et les compagnies de téléphone locales selon la méthode classique du taux de rendement; les autres transporteurs sont généralement libres d'accéder au marché de l'interurbain et d'en sortir.

Le Royaume-Uni a adopté une autre démarche. Il a permis à une seule société, Mercury Communications Ltd., de livrer concurrence à British Telecom, société désormais privatisée. Contrairement aux É.-U., le concurrent est autorisé à fournir des services locaux comme interurbains. De plus, bien que British Telecom soit tenue d'assurer le service partout au R.-U., Mercury ne l'est pas et, par conséquent, elle n'a jusqu'ici offert ses services que dans les régions les plus populeuses. Ainsi, un pourcentage élevé de la population du R.-U. peut se prévaloir des services concurrentiels à meilleur marché de Mercury, mais ces services ne sont pas généralement offerts dans les régions rurales et isolées. De plus, le R.-U. n'oblige pas Mercury à verser des contributions à l'appui de la prestation du service téléphonique local.

Le Japon a adopté une troisième démarche. Il a réparti son industrie des télécommunications en deux catégories: les télécommunicateurs qui construisent et exploitent leurs propres installations et les revendeurs qui louent des installations des premiers. Il a aussi privatisé ses fournisseurs autrefois monopolistiques de services téléphoniques nationaux et internationaux.

Au Japon, l'accès et la prestation du service par les télécommunicateurs dotés de leurs propres installations sont réglementés, tandis que les revendeurs exploitent leurs entreprises pour ainsi dire sans réglementation. Un nombre relativement élevé de nouveaux télécommunicateurs ont accédé au marché des télécommunications au Japon. Malgré un interfinancement manifestement important des services locaux par les services interurbains, le gouvernement japonais n'a pas

réglementé les nouveaux venus de manière à dédommager NTT (le fournisseur autrefois monopolistique du service national) de toute perte de contribution à la prestation du service local. Le trafic des télécommunications augmente rapidement au Japon, et les décisionnaires comme l'industrie semblent manifestement estimer qu'il y a suffisamment de place dans l'industrie pour que toutes les compagnies y croissent sans avoir recours à des mécanismes compensatoires.

Les autorités européennes, par contraste, tout en autorisant la concurrence dans certains secteurs des télécommunications, ne l'ont pas permise dans la prestation du service téléphonique interurbain public. Elles considèrent généralement le maintien d'une structure monopolistique comme étant le meilleur moyen de fournir tous les genres de services téléphoniques.

4.0 CONCURRENCE OU MONOPOLE – PRINCIPAUX FACTEURS INFLUENÇANT LE CHOIX

Ce chapitre a pour objet de faire le point sur les divers facteurs techniques, opérationnels et économiques susceptibles de justifier le choix d'un régime monopolistique par rapport à un régime concurrentiel pour la prestation du service téléphonique interurbain public. Le chapitre se compose de quatre sections portant sur : les aspects techniques et opérationnels de la prestation du service dans un milieu concurrentiel; les répercussions des coûts sur la concurrence; l'élasticité de la demande par rapport aux prix; et les répercussions macroéconomiques de la concurrence. Ce chapitre vise à examiner les renseignements existants de nature générale qui portent sur la question du "monopole par rapport à la concurrence", avant de présenter, dans les chapitres suivants, un exposé plus détaillé sur l'implantation de la concurrence dans le milieu canadien.

4.1 Aspects techniques et opérationnels

4.1.1 Innovation des techniques et des services

Parmi les questions qui se posent aux responsables des politiques, l'une consiste à savoir si l'innovation des services et des techniques dans l'industrie du téléphone est susceptible d'être davantage stimulée en régime concurrentiel qu'en régime monopolistique. Par exemple, de quels renseignements dispose-t-on concernant le développement des réseaux, la prestation des services et l'effort de recherche et de développement, dans les secteurs où la concurrence existe? Quel rôle le changement technologique joue-t-il dans un contexte de monopole par rapport à un contexte de concurrence? Force est de constater que toutes les opinions ne concordent pas quant à savoir si une structure industrielle monopolistique plutôt que concurrentielle peut davantage susciter l'innovation et un changement technologique avantageux, ou le contraire.

Au cours des dernières années, l'industrie du téléphone a connu des mutations technologiques majeures, et notamment la convergence des technologies de l'informatique et des télécommunications. De nouvelles techniques de transmission et de commutation, telles les fibres optiques, la commutation informatisée, la commutation numérique, la transmission numérique, etc., ont permis de moderniser une grande partie du réseau interurbain canadien. Les compagnies de téléphone ont adopté de nouvelles technologies améliorées pour accroître le rendement du réseau et offrir de nouveaux services aux abonnés. En conséquence, l'industrie a enregistré des gains de productivité importants et une réduction de ses coûts unitaires réels.

Les compagnies de téléphone canadiennes semblent avoir suivi le mouvement technologique international, et elles ont mis en place l'un des réseaux de télécommunications les plus modernes et les plus efficaces au monde, du point de vue fonctionnel. La question importante à laquelle les décideurs canadiens devront répondre consiste à savoir si le maintien d'un monopole sur la prestation du SICT/WATS est souhaitable à l'avenir pour ce qui est de l'innovation des techniques et des services, ou si, au contraire, ce n'est pas la concurrence qui aura

pour effet d'accélérer l'innovation et, par conséquent, permettra d'offrir des services améliorés au grand public.

Un examen plus approfondi de l'expérience américaine permet de jeter un éclairage utile sur ces questions. Pour mieux les évaluer, le Groupe de travail a chargé la Economics and Technology Inc., de Boston (Massachusetts), de réaliser une étude intitulée "Étude de certaines répercussions de la concurrence dans l'industrie américaine du service téléphonique interurbain".

Du point de vue de l'évolution du réseau, le rapport des experts-conseils signale l'apparition, aux États-Unis, de deux événements distincts, mais néanmoins reliés. Premièrement, étant donné que la concurrence s'est surtout manifestée au niveau interLATA, les concurrents se sont, dans l'ensemble, concentrés sur la mise en place de réseaux régionaux et nationaux interLATA, reliant entre eux les principaux centres de population. Deuxièmement, par suite de mesures de règlementation délibérées, l'avènement de la concurrence dans la prestation des services interurbains et les réductions sensibles des tarifs interurbains ne semblent avoir eu que peu d'effets, sinon aucun, sur le bien-être financier des compagnies de téléphone locales. Cela s'explique en partie par le fait que, lors de l'apparition de la concurrence au niveau interétats, les revenus interurbains, jusque-là attribués aux compagnies de téléphone locales en vertu de mécanismes de séparation des juridictions et de partage des revenus, ont continué de leur être attribués, par le truchement d'un mécanisme de frais d'accès perçus auprès des télécommunicateurs interétats. Par conséquent, les compagnies locales n'ont pas subi de crises financières soudaines, préjudiciables au développement et à l'amélioration de leurs réseaux. Au contraire, la concurrence et les impératifs de l'égalité d'accès ont eu pour effet d'accélérer l'adoption de nouvelles technologies de commutation numérique et autres techniques, que cela soit, en réalité, justifié ou non d'un point de vue économique pour la prestation du service local. Il semble que de nombreuses compagnies de téléphone locales aient profité de l'obligation de l'égalité d'accès (imposée par la Modification apportée au jugement final) pour moderniser leurs réseaux. Cela s'est traduit par une amélioration de la qualité des réseaux locaux, mais accompagnée d'une augmentation des dépenses en capital et des coûts d'amortissement imputés aux besoins en revenus des tarifs locaux.

Le rapport de la firme Economics and Technology Inc. indique également que la concurrence a favorisé l'offre d'un grand nombre (une soixantaine, peut-être) de "forfaits" différents. S'ils se distinguent les uns des autres, c'est davantage au niveau des prix que des capacités de service. L'objectif évident des télécommunicateurs interurbains des É.-U. a été de structurer leur offre de services en fonction de la segmentation du marché, c'est-à-dire en tenant compte de l'importance de la clientèle ciblée, du degré de choix entre plusieurs concurrents et de l'élasticité de la demande par rapport aux prix. D'après ce rapport, voici quelques-uns des aspects-clés des innovations survenues au niveau des prix et des services depuis le démantèlement d'AT&T :

1) L'offre de certains services offerts sur réseaux commutés et spécialisés s'est accrue, en raison de l'omniprésence géographique croissante des nouveaux venus sur le marché.

2) Les télécommunicateurs ont diversifié leur offre, en proposant un grand nombre de nouvelles combinaisons de prix et de services, par opposition aux mécanismes de tarification plus traditionnels, par appel (SICT) ou par durée (WATS).

Le rapport des des experts-conseils signale, par ailleurs, un certain rééquilibrage, quant à l'attrait des services numériques et des services de réseaux. L'accessibilité des services numériques T-1 ne cesse de croître, et on assiste à l'émergence de réseaux pratiquement privés. Ces phénomènes reflètent à la fois un progrès technologique réel, dont la portée peut avoir influé ou non sur la concurrence dans le service interurbain, et la planification stratégique des entreprises au niveau du marché. La diminution des coûts de transmission, l'apparition des fibres optiques et l'informatisation des fonctions et des dispositifs des centraux sont autant de facteurs ayant considérablement élargi la gamme des services actuellement offerts par les principaux télécommunicateurs.

Le Groupe de travail n'a pu trouver de données concluantes concernant les répercussions de la concurrence du SICT/WATS sur la recherche et le développement en matière de télécommunications, aux États-Unis. D'une part, certains analystes craignent qu'un manque de coordination ainsi que la réticence des télécommunicateurs à partager des renseignements stratégiques nuisent à l'élaboration et à l'adoption de nouveaux systèmes et de nouvelles normes. La situation se complique du fait que le démantèlement d'AT&T a provoqué une mutation radicale de l'effort de recherche et de développement. On craint également que les compagnies concurrentes recherchent les profits à court terme et évitent les projets de développement de plus longue haleine. D'autre part, certains observateurs laissent entendre que la concurrence stimulera la recherche et le développement, en apportant des occasions d'affaires claires aux télécommunicateurs qui seront les premiers à améliorer leur rendement et à mettre au point de nouveaux systèmes. Bien que la dernière décennie ait été marquée, aux États-Unis, par des améliorations technologiques majeures et que cela va probablement continuer, il est difficile d'établir si la concurrence a influé ou non sur l'ampleur de ces progrès.

4.1.2 Capacité de répondre aux besoins des utilisateurs

Les économistes professionnels ne sont pas les seuls à considérer que, dans l'ensemble, la concurrence est un moyen de garantir une réponse aux besoins des utilisateurs. Les entreprises concurrentes sont incitées à fournir des produits et services dont les prix et la qualité soient acceptables, soit pour conserver leur part du marché, soit pour l'augmenter.

En régime monopolistique, le télécommunicateur interurbain doit dériver ses revenus de l'ensemble des appels effectués dans le système. Les rabais, par exemple, visent à stimuler le trafic, sans le détourner des services à forte marge de profit. En régime concurrentiel, par contre, la motivation de chaque télécommunicateur consiste à maximiser ses revenus nets, en pratiquant une tarification susceptible de détourner le trafic de ses concurrents et de stimuler l'utilisation de son réseau propre.

Comme nous l'avons vu au chapitre précédent, l'ouverture à la concurrence du marché du SICT/WATS aux États-Unis a entraîné la prolifération des forfaits tarifaires. Dans ce contexte, certains abonnés sont donc beaucoup plus en mesure de trouver un forfait tarifaire qui corresponde à leurs besoins spécifiques. Des services comme "Software Design Network" et "Megacom" (services en gros, de type WATS, qui exigent un système d'accès numérique T-1 spécialisé) ont été spécifiquement conçus à l'intention des gros abonnés (d'affaires). À l'autre extrémité de la gamme, on a conçu des forfaits tarifaires destinés aux entreprises plus petites et aux abonnés résidentiels, dont l'utilisation du service interurbain ne justifie pas un abonnement à un service de type WATS, mais qui, collectivement, représentent cependant une source non négligeable de revenus pour le télécommunicateur. AT&T a fait une percée sur ce dernier marché en introduisant ses forfaits tarifaires "Pro-America". Quant à MCI, elle proposait, en 1986, ses services "Prism I, Prism II et Prism III". Enfin, U.S. Sprint (alors GTE Sprint) a mis au point le "Advanced WATS 2" et, plus tard, le "Dial 1 WATS". En 1987, MCI ajoutait "Prism Plus", un nouveau service, tandis que US Sprint créait le service "Advanced WATS Plus". Le lancement de tous ces nouveaux produits a eu pour effet cumulé de créer une gamme de services de lignes directes et de réseaux commutés correspondant de beaucoup plus près qu'auparavant aux besoins des abonnés et aux prix qu'ils sont prêts à payer.

L'expérience ne s'est pas révélée complètement positive. Le rapport de la firme Economics and Technology Inc. révèle que la nouvelle structure de l'industrie américaine du téléphone a engendré davantage de confusion et de complexité.[76] Par exemple, les arrangements de facturation sont plus complexes : la facturation des appels interurbains peut relever de la compagnie de téléphone locale, du télécommunicateur choisi par préabonnement ou d'autres télécommunicateurs. Peu d'abonnés sont au courant des distinctions et des occasions que cela offre. En outre, dans le cas des abonnés du service d'affaires, la concurrence dans la prestation des services de lignes privées et la fragmentation de ce marché ont entraîné des complexités qui pourraient se traduire par des retards dans la commande de service, des erreurs de facturation et de la confusion concernant les structures tarifaires

La capacité des entreprises de répondre aux attentes des utilisateurs par un service de qualité s'est également modifiée avec le temps. Au tout début de la concurrence, les télécommunicateurs autres qu'AT&T n'avaient pas un accès de haute qualité aux réseaux des compagnies locales. Par conséquent, leurs abonnés se plaignaient souvent d'avoir à composer plusieurs fois un numéro avant de l'obtenir, ou encore récriminaient à propos de leurs factures ou de la qualité du signal. L'égalité d'accès induite par la Modification apportée au jugement final ayant gommé les différences entre les télécommunicateurs, les abonnés ont cessé de se plaindre. D'après les sondages effectués auprès d'abonnés du service d'affaires, particulièrement sensible aux problèmes de la qualité du service, il semble que l'on ne perçoive presque plus de différence entre les télécommunicateurs interurbains, bien que les services d'AT&T continuent d'être plus cotés que ceux de ses concurrents. Malheureusement, aucune donnée n'a permis

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[76] Economics and Technology Inc., étude commandée par le Groupe de travail.

au Groupe de travail de déterminer comment, le cas échéant, la concurrence du SICT/WATS a pu se répercuter sur la qualité du service offert par AT&T.

En outre, depuis l'implantation de l'égalité d'accès, l'écart est beaucoup plus mince que par le passé entre les marges de profit réalisées par AT&T, d'une part, et ses concurrents, d'autre part. De ce fait, ces derniers sont contraints de miser sur d'autres aspects de la différenciation du service, pour conserver leur part du marché, ou pour s'imposer.

4.2 Répercussions sur l'industrie du coût de la concurrence

4.2.1 Économies d'échelle et de portée

Cette section présente les renseignements disponibles concernant les économies d'échelle et de portée dans la prestation du service téléphonique interurbain public au Canada. Cette question revêt une importance particulière pour l'examen de l'entrée en concurrence dans le marché de l'interurbain, étant donné que la présence ou l'absence d'économies d'échelle et(ou) de portée pourrait avoir des répercussions sur la survie et la rentabilité des nouveaux venus.

4.2.1.1 Définition des économies d'échelle et de portée

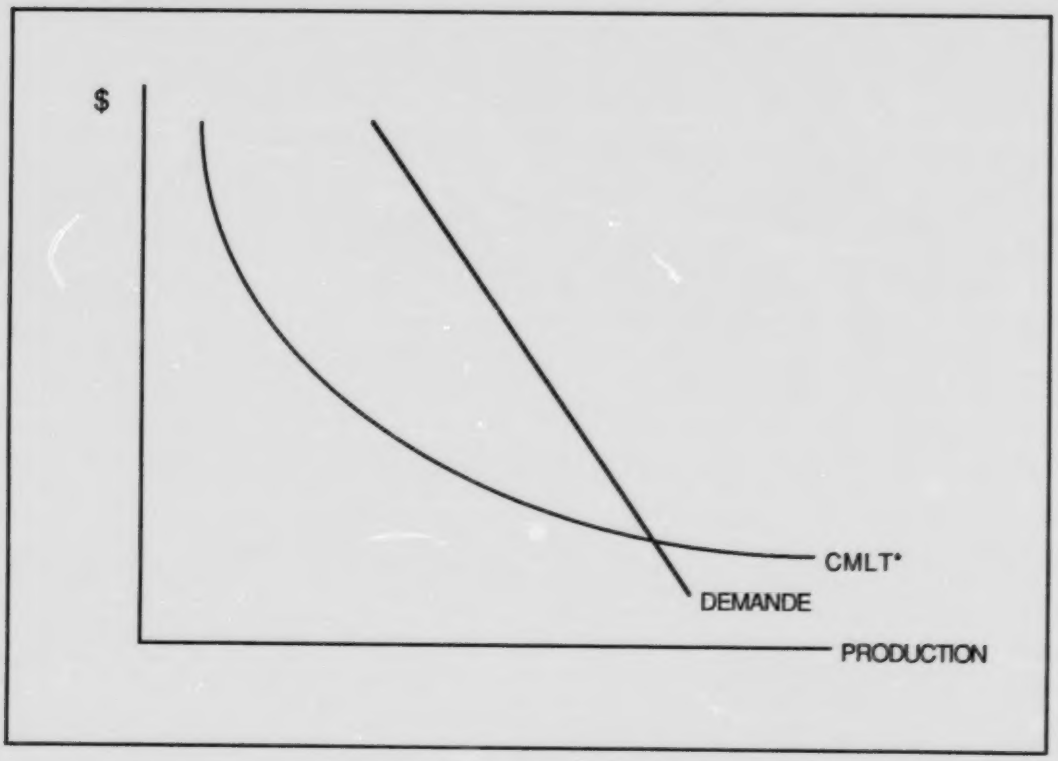
Il y a économies d'échelle lorsqu'une augmentation du niveau de production n'entraîne pas d'augmentation proportionnelle des coûts totaux. Autrement dit, les coûts moyens à long terme diminuent constamment avec la production de l'industrie et ne sont pas absorbés par le total des ventes du marché. Ceci est expliqué graphiquement au graphique 4-1. On peut réaliser des économies d'échelle au niveau de "l'usine" ou de "l'entreprise". Les économies d'échelle réalisées au niveau de l'usine tiennent aux relations qui existent entre les différentes composantes techniques du processus de production, et notamment les besoins relatifs en capital, en main-d'oeuvre, en matériaux, etc., associés à tel ou tel mode de production. Quant aux économies d'échelle réalisées au niveau de l'entreprise, elles résultent d'une coordination centrale de la gestion, et peuvent prendre la forme de réductions de coûts obtenues grâce à un financement à grande échelle, à la publicité ou à des programmes de promotion, etc.

On parle d'économies de portée lorsque la production combinée d'au moins deux services distincts, par une seule entreprise, entraîne des coûts moins élevés que ceux encourus par plusieurs entreprises individuelles produisant chaque service séparément. On peut réaliser des économies de portée grâce au partage des installations, de la main d'oeuvre ou de la gestion, pour la production d'au moins deux produits ou services. Ce genre de partage existe, par exemple, lorsque l'on utilise un seul réseau local de distribution pour les appels interurbains et locaux, au lieu d'utiliser deux réseaux séparés.

Les notions d'économies d'échelle et de portée peuvent servir à définir la nécessité de l'existence d'un monopole naturel. On parle de monopole naturel lorsqu'une seule entreprise est capable d'assurer la production de l'industrie à un coût total moins élevé que si deux ou plusieurs entreprises s'en chargeaient. Bien qu'un monopole naturel puisse exister s'il existe des économies d'échelle ou de portée,

Graphique 4-1

Économies d'échelle



* Coûts moyens à long terme

la présence de l'une ou de l'autre ne garantit pas en soi un monopole naturel. Toutefois, lorsque des économies d'échelle et de portée existent, il y a assurément monopole naturel.

Il y a perte d'économies d'échelle et de portée lorsque les avantages de la diversité et de l'envergure se transforment en désavantages. Par exemple, lorsque des abonnés demandent un service personnalisé ou une attention spéciale, une échelle de production moindre peut se révéler le seul moyen de maintenir une qualité et des normes de rendement élevées. Au-delà d'un certain seuil, les coûts unitaires de production peuvent subir une hausse, due à la difficulté de faire correspondre utilisation des ressources et exigences des clients. Traditionnellement, on considère que, dans la plupart des industries, les coûts ont tendance à baisser au fur et à mesure que le volume (ou l'envergure) de la production augmente, jusqu'à un seuil donné (marge de réalisation d'économies d'échelle ou de portée), au-delà duquel les coûts unitaires augmentent en fonction du volume (marge de réalisation de pertes d'économies). Lorsque l'on s'interroge sur les caractéristiques d'un monopole naturel au sein du marché interurbain, la question est de savoir si la demande totale du marché peut être satisfaite, avant que ne soit atteint le seuil de réalisation de pertes d'économies.

Le concept d'un monopole naturel fait intervenir plusieurs autres facteurs, notamment : la structure existante du marché; la capacité de survie; les économies de rendement; la demande du marché; et la fonction de barrière d'entrée des coûts du capital. Ces facteurs sont examinés séparément dans les paragraphes qui suivent.

Pour ce qui est de la structure existante du marché, signalons qu'aux réseaux des compagnies de téléphone en place, s'ajoutent les installations de nombreuses autres compagnies éventuellement capables d'offrir le SICT/WATS. Parmi ces installations, il faut citer le réseau de fibres optiques de CNCP et les satellites de Télésat. Même quand il y a économies d'échelle, il peut s'avérer plus efficient de recourir à ce genre d'installations pour offrir le service, à partir du moment où il existe plus d'un réseau en place. À l'inverse, des considérations de ce genre peuvent inciter des entreprises à se créer une capacité excédentaire.

Quant à la fiabilité du service, en particulier celle relative à la survie des réseaux, l'impératif de diversification des routes implique la construction de réseaux multiples, même en présence d'économies d'échelle. La question est alors de savoir s'il faut confier cette diversification à un seul fournisseur de services, ou à plusieurs.

On confond parfois économies d'échelle et économies de rendement. Il faut entendre par économies de rendement la réduction des coûts unitaires à laquelle on peut arriver, en utilisant davantage une capacité existante. Cependant, la réalisation d'économies d'échelle n'empêche pas d'apporter des modifications à l'échelle des ressources de production (en augmentant la capacité par exemple). On peut parler d'économies de rendement dans le contexte d'un monopole naturel, à condition que la demande du marché se situe dans des limites à l'intérieur desquelles elle peut être satisfaite par l'utilisation d'une plus grande capacité.

Il faut aussi tenir compte de la demande du marché, exprimée globalement et au niveau de chaque route. Chaque route doit être évaluée à la lumière de ses besoins de capacité et des technologies les plus appropriées pour la desservir. C'est pour cela que les possibilités de réaliser des économies d'échelle varient selon les routes, de même que les opportunités de concurrence viable. Par exemple, alors que la route Montréal–Toronto exige au minimum une capacité de 60 000 voies à fréquences vocales, d'autres routes nécessitent une capacité bien moindre. Qui plus est, la croissance naturelle du marché, la chute des prix, le lancement de nouveaux services et l'adoption de nouvelles pratiques au niveau du réseau peuvent entraîner une augmentation de la capacité requise.

Le montant important des déboursés en capital initiaux nécessaires à la prestation des services interurbains peut avoir un effet de dissuasion, même lorsque le concurrent intéressé est capable de fournir le service à des coûts égaux ou inférieurs à ceux des entreprises en place. Bien qu'une telle considération n'ait pas vraiment de rapport avec le concept d'un monopole naturel, sa pertinence tient au fait que le nombre des entreprises désireuses de pénétrer un marché donné peut se trouver réduit.

Jusqu'à présent, nous avons traité des économies d'échelle et de portée par rapport aux télécommunicateurs qui exploitent leurs propres installations. Il faut cependant également tenir compte des revendeurs. À cet égard, il y a lieu de noter que, bien que les revendeurs détournent une part du trafic des compagnies de téléphone, cela est compensé par leur utilisation des installations des compagnies de téléphone. Par conséquent, la question d'économies d'échelle et de portée dans les installations de transmission n'a pas la même pertinence pour les activités de revente que pour la concurrence fondée sur les installations.

4.2.1.2. Données relatives à l'existence d'économies d'échelle et de portée

La firme d'experts–conseils à laquelle le Groupe de travail a fait appel a essentiellement axé son étude sur l'influence exercée par les changements technologiques prévus sur la structure des coûts de l'industrie des télécommunications, et sur l'existence d'économies d'échelle et de portée dans la prestation du service interurbain. Intitulée "L'incidence de l'évolution de la technologie sur la structure du prix de revient de la prestation du service téléphonique public interurbain", cette étude a été réalisée par la firme d'experts–conseils Coopers & Lybrand, de Toronto; en voici le sommaire ci–dessous.

Coopers & Lybrand ont développé quatre méthodes permettant d'analyser les données disponibles sur la présence d'économies d'échelle et de portée, ainsi que d'autres facteurs affectant la fonction coût. Les résultats obtenus par chaque méthode (méthodes fondées sur l'ingénierie, l'analyse financière, la comptabilité analytique et l'économétrie) sont résumés au tableau 4–2. On trouvera ci–après une discussion détaillée de ces méthodes.

<u>Méthode fondée sur l'ingénierie</u>

La méthode fondée sur l'ingénierie s'appuie sur un examen des technologies actuelles de transmission et de commutation interurbaines. Elle permet de

TABLEAU 4-2

Utilité et limites des quatres méthodes permettant de déterminer la présence d'économies d'échelle et de portée

MÉTHODE	DESCRIPTION	UTILITÉ	LIMITES
INGÉNIERIE	° Analyse du coût des immobilisations par kilomètre de circuit construit selon diverses techniques.	° Se concentre sur les propriétés physiques et, par conséquent, permet de discriminer parmi toutes les sources de variation de la fonction du prix de revient. ° Prend en ligne de compte l'évolution actuelle et future de la technologie. ° Résultats très sûrs et très précis.	° S'appuie sur le prix de revient au plan de l'étude d'ingénierie plutôt que sur les données d'exploitation des sociétés. ° Repose uniquement sur des données du niveau de la production (plutôt que des données du niveau de la gestion de l'entreprise).
FINANCIÈRE	° Analyse le rendement financier de l'exploitation d'un service interurbain par diverses sociétés.	° Compare les résultats obtenus par les diverses sociétés au cours d'une même année; par conséquent, n'est pas biaisé par le changement technologique. ° Résultats assez sûrs et précis.	° Ne permet pas de discriminer parmi les économies d'échelle, de diversification et de capacité. ° Ne tient pas compte des différences au plan des techniques employées par les diverses sociétés. ° Ne peut prévoir l'incidence de l'évolution technologique.
COMPTABILITÉ ANALYTIQUE	° Analyse les tendances du prix de revient par mille de circuit par appel au cours d'une période donnée.	° Donne une perspective historique à l'étude. ° Tient spécifiquement compte du taux d'utilisation de la capacité. ° Résultats moyennement sûrs et précis.	° Ne permet pas de mesurer l'incidence ni des économies d'échelle et de diversification, ni du changement technologique. ° Ne peut prévoir l'incidence de l'évolution.
ÉCONOMÉTRIQUE	° Estimation du prix de revient de l'entreprise à l'aide de données historiques.	° Établit un lien avec la théorie économique.	° On ne peut s'appuyer sur des données ventilées pour estimer des économies d'échelle ou de diversification dans le cas de produits spécifiques (c'est-à-dire le service interurbain). ° Ne peut prévoir l'incidence de l'évolution technologique. ° Résultats peu sûrs et peu précis.

SOURCE: The Coopers & Lybrand Consulting Group, étude commandée par le Groupe de travail, tableau A1.

déterminer la présence d'économies d'échelle et de portée et de constater les répercussions du changement technologique et des économies de rendement. C'est une méthode particulièrement utile dans la mesure où elle permet de prendre en ligne de compte l'évolution technologique, tant présente que future. Cependant, ses limites tiennent au fait que premièrement, elle s'appuie sur les coûts d'ingénierie plutôt que sur les résultats réels d'exploitation des compagnies et, deuxièmement, que seules sont incluses les données disponibles au niveau de l'usine, par opposition aux données disponibles au niveau de l'entreprise.

La méthode fondée sur l'ingénierie analyse le coût de l'investissement par circuit-kilomètre, pour trois technologies précises de télécommunications interurbaines: micro-ondes par éléments analogiques, par éléments numériques et par fibres optiques. Les caractéristiques des coûts élaborées par les experts-conseils pour ces trois technologies sont illustrées au graphique 4-3. On peut faire les observations suivantes à propos de ces technologies :

1) En ce qui concerne les systèmes analogiques de tranmission radio, les économies d'échelle disparaissent à partir de 13 000 voies à fréquences vocales. Pour augmenter la capacité de la route de transmission, pour la même technologie, il faudrait prévoir des augmentations proportionnelles des coûts fixes chaque fois que la capacité courante est épuisée. Comme l'indique le graphique 4-3, chaque fois que le point d'épuisement de la capacité est atteint, la courbe des coûts enregistre une hausse marquée. La valeur asymptotique de cette courbe ne se trouve jamais en deçà de l'asymptote obtenue pour le premier système installé. Les experts-conseils ont pris pour acquis une hypothèse importante, à savoir que les systèmes subséquents de transmission radio ne partagent ni l'infrastructure ni la servitude du premier système. (Les coûts sont exprimés en dollars du début des années 1960).

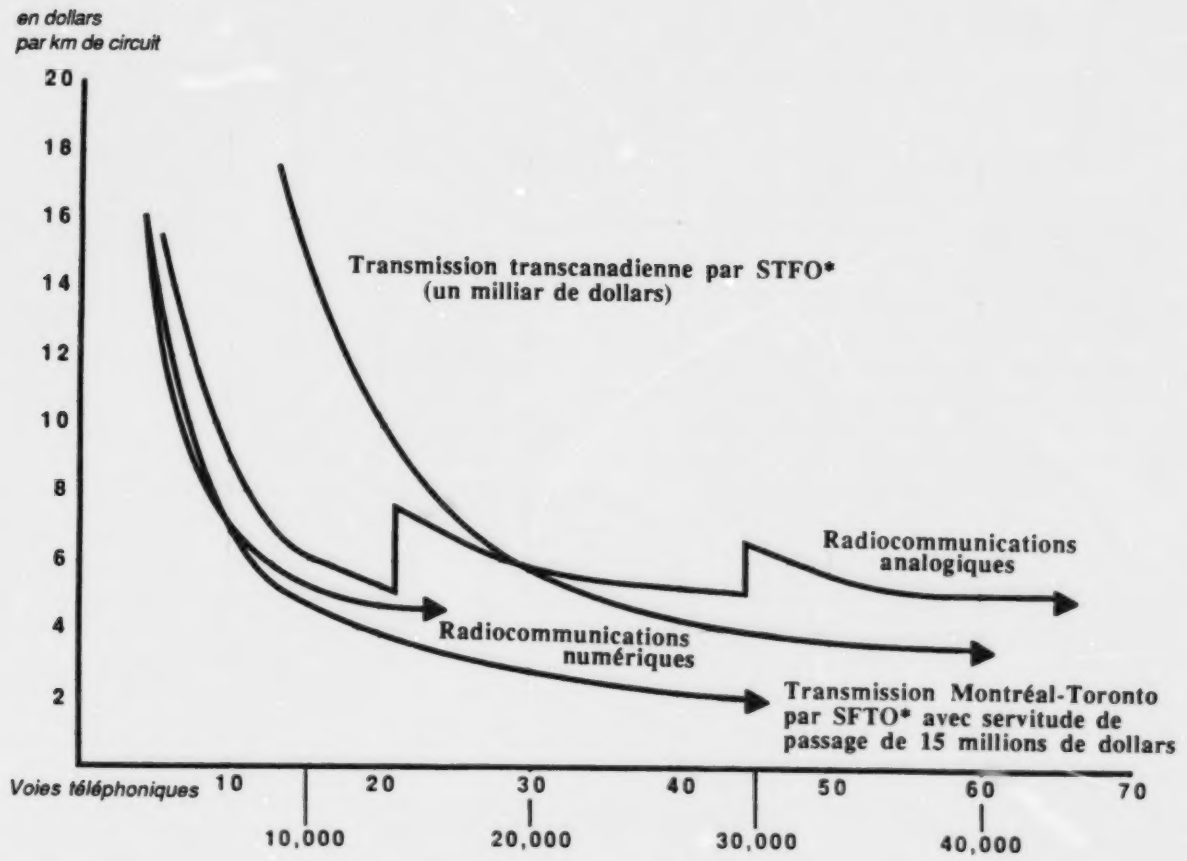
2) Il est possible d'obtenir des systèmes numériques de transmission radio à un coût légèrement inférieur à celui des systèmes analogiques (les coûts sont exprimés en dollars du milieu des années 1980). La courbe s'arrête au premier point d'épuisement de la capacité; si on la poursuivait, sa forme serait identique à celle de la courbe représentant les systèmes analogiques de transmission radio.

3) Les coûts de transmission par fibres optiques (exprimés en dollars de 1987) sont inférieurs aux coûts des autres technologies, à partir d'une capacité supérieure à 10 000 voies à fréquences vocales, pour un système de type Montréal-Toronto facile à installer. La courbe correspondant au réseau transcanadien de fibres optiques est dérivée par des calculs arithmétiques, et se fonde sur un coût plafond probable d'un milliard de dollars, pour un système transcanadien de fibres optiques enfouies. Aujourd'hui, le seuil de rentabilité d'un tel système serait atteint bien avant le point d'épuisement de la capacité d'un deuxième système de transmission radio.

Le rapport des experts-conseils insiste sur le fait que les systèmes de transmission par fibres optiques ont une capacité pratiquement illimitée de faire baisser les coûts par circuit-kilomètre, vu les capacités requises dans le contexte

Graphique 4-3

Comparaison du coût unitaire des immobilisations entre trois techniques de transmission intervilles



*STFO Système de transmission par fibres optiques.

SOURCE: The Coopers & Lybrand Consulting Group, étude commandée par le Groupe de travail, tableau A3.

actuel. Les améliorations anticipées des technologies électroniques devraient encore accroître la capacité, et réduire les coûts unitaires. Étant donné que la courbe correspondant aux coûts de transmission par fibres optiques ne cesse de s'infléchir (parallèlement aux économies d'échelle réalisées au niveau de la transmission), toute entreprise concurrente ayant un volume d'activités sensiblement inférieur à celui de l'entreprise dominante souffrirait d'un lourd handicap. Les experts-conseils font remarquer que l'ampleur de ce handicap dépend du volume absolu d'activités de l'entreprise dominante, exprimé en part du marché. En effet, au fur et à mesure que la courbe des coûts se rapproche de sa valeur asymptotique, l'écart entre les coûts des entreprises concurrentes se réduit. Cependant, l'entreprise dominante aura toujours un avantage au niveau des coûts.

Les experts-conseils font également remarquer que lorsque les concepteurs de réseaux sont confrontés à l'épuisement de capacité d'un système de commutation, ils ont tendance à ajouter de nouveaux systèmes. La capacité du système résultant est, néanmoins, inférieure à la simple multiplication du nombre des systèmes, dans la mesure où la capacité est absorbée par l'intercommutation et l'intercommunication des différents systèmes. Selon la configuration individuelle des systèmes, la courbe des coûts s'infléchit lentement ou commence à remonter dès que l'on augmente le nombre des terminaisons de réseaux. Avec l'apparition des commutateurs numériques à très forte capacité, la valeur de capacité à laquelle cette situation se produit intervient à partir d'un nombre beaucoup plus élevé de terminaisons. Par conséquent, signale-t-on, cette évolution technologique a provoqué une augmentation des économies d'échelle, en accroissant le nombre des circuits susceptibles d'être utilisés avant que ne soient épuisées les capacités d'un seul système.

Pour ce qui est des économies de portée, les experts-conseils signalent que les nouvelles technologies ont entraîné l'expansion des services offerts à partir des installations de télécommunications. Cela se traduit par une augmentation du nombre des unités de demande sur lesquelles on peut répartir les coûts de production, ce qui est bien la preuve de l'existence d'économies de portée non négligeables. De plus, l'intégration des systèmes de transmission des données et de la parole, rendue possible par l'adoption d'une technologie numérique pour la commutation comme pour la transmission, entraîne, elle aussi, d'importantes économies de portée. D'après le rapport, l'apparition de techniques en pleine évolution comme le réseau numérique à intégration de services) (RNIS) devrait, à l'avenir, renforcer encore les économies de portée existantes.

La méthode fondée sur l'ingénierie permet aux experts-conseils d'arriver à la conclusion majeure que les technologies de commutation et de transmission offrent la possibilité de réaliser d'importantes économies d'échelle et de portée, d'autant plus que viennent s'y ajouter les technologies nouvelles des systèmes numériques et des fibres optiques, en particulier. Il faut, malgré tout, considérer une telle conclusion à la lumière de l'une des limites énoncées – à savoir que cette méthode s'applique davantage aux données disponibles au niveau de l'usine plutôt qu'au niveau de l'entreprise. Au plan de l'entreprise (c'est-à-dire de la compagnie prise comme un tout), l'expérience américaine révèle que les dépenses de réseau représentent au maximum 10 à 15 % de la structure des coûts d'un télécommunicateur interurbain; par contre, les coûts d'accès et les frais de facturation en

représentent 60 à 75 %.[77] Cela signifie que les données prises en compte dans la méthode fondée sur l'ingénierie portent essentiellement sur les installations de réseau, et ignorent les coûts non liés au réseau, comme les coûts d'accès au réseau local et les dépenses de facturation, de publicité et d'administration, alors qu'ils peuvent avoir pour effet de compenser ou de réduire l'importance relative des économies d'échelle et de portée réalisées au niveau du réseau.

Les experts-conseils déclarent aussi que, quoique les fibres optiques offrent une capacité presque inimaginable, la nécessité de la diversification des routes afin de garantir la survie des réseaux réduit les économies d'échelle qui seraient autrement possibles. L'optimisation de la capacité de survie sous-entend un partage raisonnablement égal des capacités sur des sites ou des routes physiquement diversifiés. Les experts-conseils font remarquer que ces routes séparées peuvent être offertes par des compagnies différentes, mais qu'il faudrait réglementer la charge pour empêcher que les économies d'échelle existantes ne confèrent un avantage au fournisseur dominant. Toutefois, si, tel qu'il est signalé ci-dessus, l'importance de ces économies d'échelle au niveau des installations est réduite par d'autres facteurs, l'avantage obtenu par le fournisseur dominant pourrait être faible. À brève échéance, les routes radio micro-ondes qui sont parallèles aux routes de fibres pourraient raisonnablement satisfaire les besoins de capacité de survie des réseaux.

Méthode fondée sur l'analyse financière

Cette méthode étudie les résultats financiers obtenus dans le passé par deux télécommunicateurs intervilles canadiens (Telecom Canada et le CNCP) et quatre groupes de télécommunicateurs intervilles américains (AT&T, MCI, U.S. Sprint et Western Union). Cette méthode est utile en ce sens qu'elle permet de comparer les résultats financiers obtenus au cours d'une même année, où le changement technologique serait relativement constant. Cependant, ses limites tiennent au fait qu'elle ne fait pas de distinction entre économies d'échelle, de portée et de rendement, qu'elle établit des rapports entre des périodes passées plutôt que futures et qu'elle est influencée par la différence d'âge des usines et la différence des pratiques comptables employées par tel ou tel télécommunicateur.

Pour ce qui est des opérations intervilles des six télécommunicateurs précités, les experts-conseils se sont appuyés sur les données financières de 1986 pour calculer leur rendement. En conclusion, il semble que ces données confirment la présence d'économies d'échelle et de portée pour la transmission intervilles. Le rapport laisse entendre qu'un petit télécommunicateur peut coexister avec une entreprise plus grosse, à condition que ses prix soient protégés.

Malgré ces conclusions, les auteurs du rapport reconnaissent que les données de base disponibles sont loin d'être parfaites. En outre, l'analyse perd un peu de son utilité du fait que la position des télécommunicateurs canadiens ne peut se

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[77] Michael E. Porter, "Competition in the Long Distance Telecommunications Market: An Industry Structure Analysis," une étude commandé par AT&T, faite par la Monitor Co., Inc., October 1987, p. 22.

comparer à celle de leurs homologues américains. L'essentiel des soi-disant "profits" dérivés des opérations intervilles des compagnies membres de Telecom Canada résulte des politiques de tarification arrêtées par les organismes de réglementation. En comparaison, les tarifs d'AT&T ont fait l'objet d'une restructuration profonde. De plus, l'expert-conseil a supposé que les coûts par minute estimatifs du CNCP sont étroitement reliés aux tarifs du SICT/WATS de Telecom Canada et qu'ils n'ont pas nécessairement de rapport avec les coûts éventuels du CNCP pour la prestation du SICT/WATS. Par conséquent, le calcul du rendement de CNCP par rapport à ses concurrents peut sembler quelque peu arbitraire.

Méthode fondée sur la comptabilité analytique

La méthode fondée sur la comptabilité analytique étudie l'évolution chronologique des coûts réels par circuit-mille et par message, à partir de données américaines et canadiennes. Si elle fournit une perspective historique, les économies de rendement sont les seules dont elle peut rendre compte. En particulier, elle ne permet pas d'établir de distinction entre les répercussions dues aux économies d'échelle et de portée ou aux changements technologiques.

Les experts font remarquer que le coût par unité de production a diminué et qu'on peut s'attendre à ce qu'il continue de diminuer à l'avenir. Ils ajoutent que, si les résultats disponibles ne permettent pas de déterminer le rôle relatif des nouvelles technologies et des économies d'échelle et de portée, ils correspondent néanmoins aux résultats obtenus par les méthodes fondées sur l'ingénierie et l'analyse financière, et indiquent la présence d'économies d'échelle et de portée.

Méthode fondée sur l'économétrie

La méthode fondée sur l'économétrie est basée sur l'examen de plusieurs ouvrages économétriques consacrés à la fonction coût, pour un certain nombre d'entreprises de télécommunications. Cette méthode, qui fait le lien avec la théorie économique, aurait dû permettre de déterminer la présence d'économies d'échelle et de portée. Cependant, les experts-conseils ont constaté que les données économétriques disponibles n'étaient ni concluantes ni nécessairement fiables. En outre, des données non totalisées ne sont pas suffisamment fiables pour estimer les économies d'échelle ou de portée réalisables pour un service donné -- dans ce cas, le service interurbain -- et un bon nombre de séries chronologiques étaient désuètes.

4.2.1.3 Évaluation des renseignements sur les économies d'échelle et de portée

D'après les quatre démarches exposées ci-dessus, la firme Cooper & Lybrand exprime l'avis que les renseignements existants pointent vers un monopole naturel ferme et durable pour les télécommunications interurbaines canadiennes au cours des deux prochaines décennies. De plus, les experts-conseils concluent qu'un second télécommunicateur intervilles ne serait pas viable, pas plus pour des services "monopolistiques" que pour des services "concurrentiels", à moins qu'on ne lui garantisse une protection réglementaire ferme et constante.

Dans son évaluation du rapport des experts-conseils, le Groupe de travail juge concluants les renseignements obtenus par la démarche fondée sur l'ingénierie qui révèle la présence d'économies d'échelle dans le réseau de transmission, même si, comme il a déjà été signalé, seul un faible pourcentage des coûts d'une entreprise est inclus dans cette catégorie. Les renseignements obtenus par les démarches fondées sur l'analyse financière, la comptabilité analytique et l'économétrie ne sont pas concluants pour ce qui est des économies d'échelle et de portée et ils ne visent pas, non plus, tous les facteurs susmentionnés qui sont considérés comme étant pertinents pour la question du monopole naturel. Par conséquent, le Groupe de travail conclut que les renseignements disponibles sont insuffisants pour trancher la question de savoir si le marché téléphonique interurbain public au Canada constitue ou non un monopole naturel.

4.2.2 Variations de la productivité

4.2.2.1 Rapport entre la concurrence et la productivité

Dans son enquête, le Groupe de travail a entrepris de cerner les répercussions que la concurrence dans la prestation du service téléphonique interurbain public aurait sur la productivité. Dans ce contexte, on juge qu'il y a accroissement de la productivité quand le coût par unité de production diminue.

Selon la preuve empirique à la disposition du Groupe de travail, les industries des télécommunications au Canada, aux É.-U. et au R.-U. ont connu de fortes augmentations de productivité au cours des deux dernières décennies. Toutefois, il n'existe qu'une preuve empirique restreinte établissant les effets distincts de divers facteurs qui peuvent influer sur la productivité, notamment le changement technologique, les économies d'échelle et de portée, les modifications apportées à la réglementation et la concurrence.

La question de savoir si la concurrence a des répercussions sur la productivité dans la prestation du service interurbain a été examinée à deux titres :

(1) les changements de productivité qui pourraient se produire <u>au sein d'entreprises</u> qui dispensent le service interurbain, face à la concurrence; et

(2) les changements de productivité <u>au sein de l'industrie du service interurbain</u> dans son ensemble, qui pourraient résulter du remplacement d'un milieu à télécommunicateur monopolistique par un milieu concurrentiel à fournisseurs multiples.

Le Groupe de travail a procédé à d'importants travaux de recherche sur cette question. Il a commandé une étude portant sur les répercussions de la concurrence dans le service interurbain sur les coûts aux États-Unis. Cette étude, menée par la firme David Chessler and Associates, Bethesda (Maryland), est intitulée "Effet de la concurrence des services téléphoniques interurbains sur les prix, les coûts et la productivité de l'industrie du téléphone aux États-Unis". Des renseignements connexes sur les répercussions de l'évolution de la technologie sur les économies d'échelle et de portée se trouvent dans l'étude de la firme Coopers &

Lybrand dont il a déjà été fait État (section 4.2.1). Le personnel du Groupe de travail a également examiné la documentation existante sur les économies d'échelle et de portée et sur le rapport entre la productivité et la concurrence dans diverses industries.

4.2.2.2 Productivité au niveau de l'entreprise

Un certain nombre de facteurs influent sur le coût unitaire au niveau de l'entreprise -- notamment les économies d'échelle et de portée (voir section 4.2.1) et l'efficience organisationnelle. Le Groupe de travail a fait porter sa recherche en particulier sur le rapport entre la concurrence et cette dernière notion, appelée l'"efficience-x".

L'hypothèse de base de l'efficience-X est la suivante : qu'il s'agisse des entreprises ou des individus, personne n'est jamais aussi productif qu'il pourrait l'être; par conséquent, il n'est pas toujours possible de minimiser les coûts. C'est là une chose généralement acceptée dans la documentation théorique et empirique, mais un débat tourne autour de la question de savoir si divers changements dans le milieu incitent les entreprises ou les individus à travailler et à atteindre des niveaux nets plus élevés de productivité, ainsi que de l'importance que peuvent avoir les économies d'efficience-x sur la structure des coûts d'une entreprise donnée.

Une importante question que le Groupe de travail s'est posée est celle de savoir si l'on peut s'attendre à ce que les gains de productivité soient plus élevés dans un milieu du service téléphonique interurbain concurrentiel que dans un milieu monopolistique. Divers arguments théoriques portent sur cette question. Toutes autres choses étant égales, l'argument ayant trait à la raison pour laquelle l'efficience-x serait plus forte en régime concurrentiel qu'en régime monopolistique tient principalement aux éléments d'incitation propres à chaque régime.

Si, au cours d'une période donnée, une entreprise monopolistique ne réussit pas à produire le niveau de services requis, les conséquences en seront minimes du fait que les clients peuvent difficilement s'adresser ailleurs. Par contraste, en régime concurrentiel, ce type d'erreur risque de faire perdre des clients à l'entreprise, d'où perte financière. D'autre part, si une entreprise monopolistique consent des niveaux supérieurs d'intrants à ceux qui seraient nécessaires pour minimiser ses coûts, les clients n'ont pas beaucoup d'options; cela signifie que l'incitation que représente la perte éventuelle de clients pour cause de service médiocre n'est guère présente tant en régime monopolistique qu'en régime peu concurrentiel. De fait, même si les mécanismes de la réglementation peuvent partiellement pallier ce manque d'incitation, ils n'ont pas toujours autant de force de dissuasion que le risque de subir des pertes financières. Bref, la théorie veut que l'incitation à atteindre le maximum d'efficience-x, toutes autres choses étant égales, est plus grande en régime concurrentiel qu'en régime monopolistique.

Un certain nombre d'études microéconomiques portant sur l'efficience au niveau de l'entreprise dans diverses industries tentent d'élaborer une preuve empirique

qui servirait à cerner les facteurs qui entraînent une plus grande efficience-x.[78] L'examen de la documentation par le groupe travail a permis à ce dernier de trouver toute une gamme d'études qui font la preuve de l'efficience-X attribuable à la concurrence dans des entreprises oeuvrant dans des industries aussi variées que la fabrication et la génération d'électricité. Les plus pertinentes de ces études examinent la présence d'efficience-x dans l'industrie des services municipaux d'électricité aux États-Unis.

La première étude porte sur les conditions relatives aux coûts de deux séries d'entreprises de services municipaux d'électricité aux É.-U., celles qui oeuvrent en régime monopolistique par rapport à celles qui subissent la concurrence d'une autre entreprise sous forme de duopole.[79] À partir de données de 1964 à 1968 pour 49 villes américaines, on a constaté que le coût moyen des services d'électricité était réduit, en moyenne de 10,75 %, à cause de l'efficience-x attribuable à la concurrence dans des régimes différents. De plus, l'auteur signale que le degré d'accroissement de l'efficience était plus perceptible dans les petits services publics que dans les grands. Cette observation est attribuable au fait que les petites entreprises sont plus sensibles aux pressions de la concurrence. Les grands services étaient capables de réaliser des économies d'échelle et, de fait, à 222 millions de kilowatts-heure d'électricité, les économies d'échelle l'emportent de loin sur les économies d'efficience-x. Cela représente une capacité relativement faible par rapport à la quantité d'électricité que vendent certaines grandes entreprises d'électricité du Canada.

La deuxième étude portait sur les 49 mêmes villes et elle a permis de constater que la concurrence avait cessé dans 11 centres.[80] Dans 17 des autres villes, l'étude a révélé que les gains d'efficience-x variaient entre 2,1 et 8,9 %. Les estimations des pertes totales attribuables à toutes les inefficiences étaient plus élevées dans 30 entreprises municipales sans but lucratif non réglementées. Cette étude ne mentionne pas de quelle façon les économies de coûts sont réalisées, bien qu'elle constate que le coût marginal des dépenses non liées à la production est moins élevé dans le cas des duopoles. Ces dépenses incluent les dépenses liées aux comptes-clients, aux ventes, à l'administration et aux frais généraux.

La troisième étude s'est concentrée sur le rapport entre la concurrence et l'efficience-x chez les compagnies d'électricité qui subissent la concurrence des

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[78] L'auteur d'un texte important sur l'organisation industrielle a conclu que (TRADUCTION) "l'inefficience-x existe et elle est plus susceptible d'être réduite lorsque des pressions concurrentielles sont fortes que lorsque les entreprises jouissent de positions de marché sûres". F. Scherer, Industrial Market Structure and Economic Performance, Rand McNally College Printers, Chicago, 1970, p. 466.

[79] Walter J. Primeaux, "An Assessment of X-Efficiency Gained Through Competition," Review of Economics and Statistics, Vol. 59, 1977, pp. 105-108.

[80] D.R. Hollas and R.S. Hereen, "An Estimation of the Deadweight and X-Efficiency Losses in The Municipal Electric Industry," Journal of Economics and Business, Vol. 34, pp. 269-81.

compagnies de distribution de gaz naturel, au niveau de la charge d'utilisation finale, en particulier pour le chauffage et l'eau chaude.[81] Cette étude compare, pour la période 1970 à 1972, les coûts de la production d'énergie électrique de 25 compagnies d'électricité par ailleurs également propriétaires de l'entreprise locale de distribution de gaz, et ceux de 54 compagnies d'électricité en concurrence avec les distributeurs de gaz d'une autre organisation. L'auteur arrive à la conclusion suivante :

> ... la réduction des pressions concurrentielles qu'entraînerait la fusion d'une compagnie d'électricité et d'un distributeur local de gaz naturel aurait pour effet de faire augmenter de 6,1 % (pour 1970) ou de 8,5 % (pour 1972) les coûts de production de l'électricité, l'écart des coûts variant selon la taille de l'entreprise.
>
> L'entrée d'entreprises concurrentes sur un marché peut mener à une amélioration des niveaux d'efficience de la main-d'oeuvre.[82]

Le rapport Chessler constate que les effets de la concurrence dans la prestation du service interurbain sur les coûts et la productivité chez les compagnies de téléphone américaines ne semblent pas avoir été analysées de manière systématique, pas plus du point de vue théorique qu'empirique. Par conséquent, l'expert-conseil conclut que la documentation américaine n'apporte pas de preuves concluantes des effets de la concurrence sur la productivité des télécommunications au niveau de l'entreprise.

Le rapport signale aussi que la question théorique des gains d'efficience se complique davantage lorsqu'une entreprise monopolistique réglementée subit la concurrence dans quelques-uns seulement de ses marchés, comme ce serait le cas si les services interurbains étaient concurrentiels, mais pas les services locaux.

Les arguments théoriques et les études microéconomiques donnent à entendre que, toutes les autres choses étant égales, l'efficience au niveau de l'entreprise devrait être plus grande en régime concurrentiel qu'en régime monopolistique. Toutefois, le Groupe de travail n'a pu trouver de preuve empirique concluante à l'appui d'une telle conclusion dans le cas des compagnies de téléphone. Dans les cas où de telles efficiences au niveau de l'entreprise existent, elles peuvent être annulées par la perte d'économies d'échelle.

4.2.2.3 Productivité au niveau de l'industrie

En l'absence de preuves concluantes, Chessler a tenté d'élaborer des tests quantitatifs dans le but d'établir une corrélation entre les variations de la productivité et l'avènement de la concurrence dans le service téléphonique interurbain public aux É.-U. Toutefois, un certain nombre de difficultés d'ordre

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[81] R. Stevenson, "X-Inefficiency and Interfirm Rivalry: Evidence from the Electric Utility Industry," Lan Economics, Vol. 58, February 1982, pp. 52-66.

[82] Ibid., p. 61.

méthodologique l'ont empêché de tirer une preuve empirique concluante, notamment :

(1) La croissance de la concurrence aux É.-U. a été progressive -- de l'implantation de la concurrence dans le SICT/WATS en 1978 au démantèlement et à l'accès direct en 1984. Il s'est donc avéré impossible de déterminer à quelle date précise l'industrie est devenue concurrentielle ou de juger à partir de quand la concurrence en soi a eu des répercussions importantes sur le comportement des entreprises établies.

(2) Quant à savoir si l'on devrait considérer le démantèlement comme étant un effet de la concurrence, voilà qui est discutable. Il existe manifestement un lien direct entre le démantèlement aux É.-U. et l'introduction de la concurrence, mais son impact sur l'industrie a été tel qu'il est impossible de l'attribuer exclusivement à l'ouverture du SICT/WATS à la concurrence.

(3) Au cours de la période visée par l'étude, plusieurs autres facteurs externes ont eu des répercussions importantes sur les coûts des télécommunications -- notamment des modifications comptables exigées par les organismes de réglementation, des réductions des taux d'imposition des sociétés et l'adoption de barèmes d'amortissement accéléré par certaines juridictions.

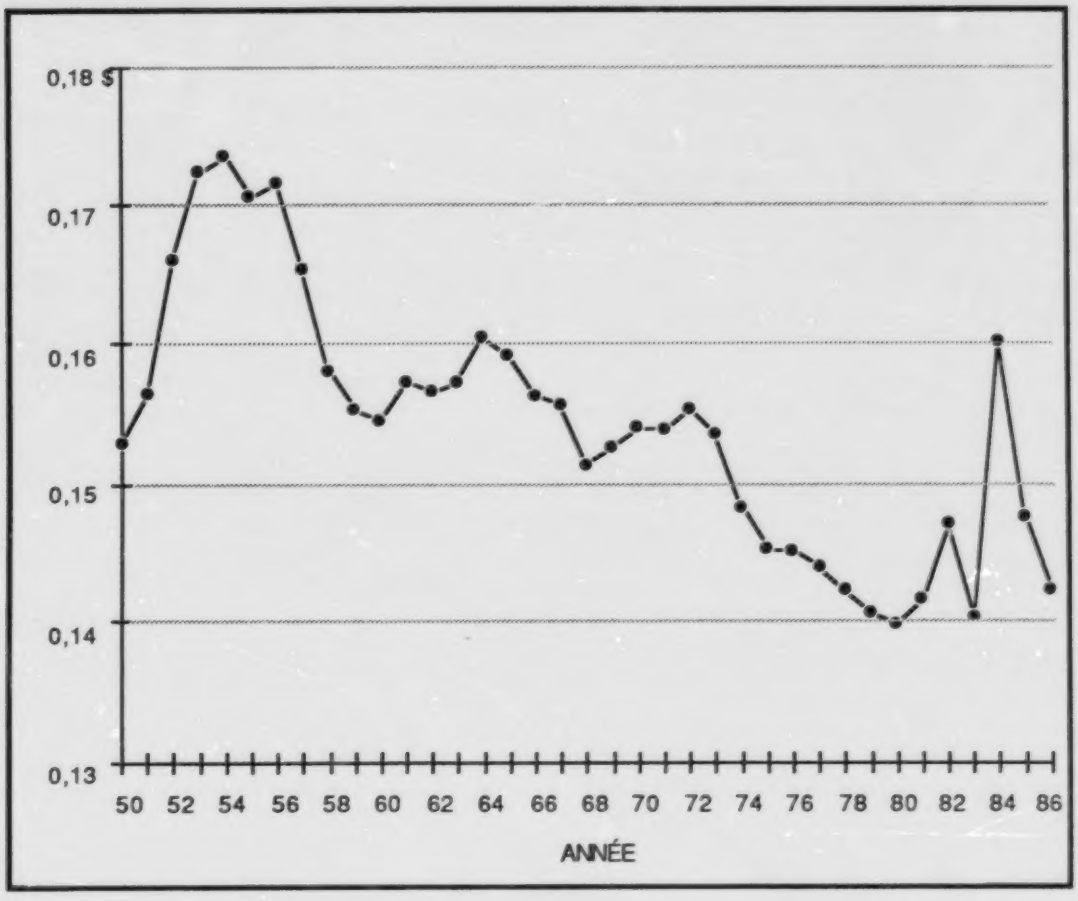
L'expert-conseil a procédé à des analyses de régression à partir de diverses séries de données chronologiques relatives au rendement de l'industrie du téléphone, mais, à cause des difficultés susmentionnées que posaient les données existantes, il n'a pas réussi à établir de lien quantitatif entre la concurrence et la productivité dans l'industrie américaine du service téléphonique interurbain. Le Groupe de travail estime que les analyses de régression ne sont pas concluantes, du fait qu'à cause de changements relativement mineurs aux caractéristiques techniques des équations de régression, la concurrence pourrait avoir des répercussions à la fois positives et négatives.

Bien qu'il se soit révélé impossible de tirer des conclusions quantitatives sur les effets de la concurrence dans le service téléphonique interurbain sur la productivité de l'industrie américaine du téléphone, les données recueillies par l'expert-conseil permettent néanmoins de formuler les conclusions suivantes :

(1) Exprimées en dollars constants, les dépenses par appel ont diminué à partir de 1972 dans l'industrie du téléphone aux États-Unis, mais cette tendance s'est renversée en 1982 et 1984, années pour lesquelles on observe des hausses marquées (graphique 4-4). (Les données sur les dépenses par appel présentées dans ce tableau s'appliquent aux appels locaux et interurbains; le rapport entre le nombre d'appels interurbains et le nombre d'appels locaux augmente progressivement, de sorte que les appels interurbains s'établissent à l'heure actuelle à environ 10 % du total des appels locaux.) L'expert-conseil associe la hausse de 1982 aux augmentations substantielles des taux d'amortissement et celle de 1984, au démantèlement et à l'imposition de l'égalité d'accès.

Graphique 4-4

Dépenses par appel en dollars US constants*
(Année de base 1982)



* Les frais par appel sont pour les appels locaux et interurbains.

SOURCE: David Chessler and Associates, étude commandée par le Groupe de travail.

(2) La productivité multifactorielle, qui représente les variations de la production par rapport aux investissements en capital et en main-d'oeuvre (et autres), ne cesse de s'améliorer depuis 30 ans -- de 1960 à 1980, elle a été en moyenne de 4 % par année (graphique 4-5). À partir de 1980, la croissance de la productivité a commencé à baisser, pour devenir négative en 1982 et 1984. Elle est revenue presque aux niveaux moyens en 1983, avant d'accuser de légères hausses en 1985 et 1986. La productivité de la main-d'oeuvre a augmenté généralement tandis que la productivité du capital a baissé presque tous les ans depuis 1980.[83] L'expert-conseil émet l'hypothèse que la baisse de la productivité multifactorielle tient peut-être à des facteurs comme a) l'augmentation coûteuse de la capacité des services existants, b) la duplication des réseaux qui se traduit par une diminution du taux d'utilisation des installations et c) la perte d'économies d'échelle en raison de la séparation en réseaux physiquement distincts du trafic interurbain intraLATA et interLATA. Il existe d'autres explications plausibles, notamment la possibilité que les relèvements de la qualité du service téléphonique, qui ont occasionné une hausse des coûts mais qui n'ont pas été capturés dans le calcul de la production, aient abouti à la perception d'une baisse de la productivité.

L'expert-conseil explique la hausse considérable de la productivité enregistrée en 1983 par le fait que, pour se préparer au démantèlement, l'industrie a dérogé à ses pratiques normales -- c'est-à-dire, la base installée d'équipements d'abonnés a été vendue à ces derniers, AT&T a mis un frein aux innovations en matière d'équipements d'abonnés et les dépenses d'entretien ont été essentiellement consacrées à la reconfiguration du réseau. En conséquence, il est probable que, si la valeur ajoutée a augmenté en 1983, ce n'est pas à cause d'une hausse de la production, mais plutôt à cause d'une baisse des ventes dans d'autres industries. En outre, le Bureau of Labor Statistics des É.-U. n'a pas compté les employés qui préparaient le démantèlement. Ou encore, cette hausse peut être attribuable à des améliorations de l'efficience.

4.2.2.4 Applicabilité au Canada

L'applicabilité au Canada des conclusions de l'expert-conseil sur les dépenses par appel et la productivité multifactorielle est fonction des ressemblances et des différences sensibles entre le milieu américain au cours des années 1970 et 1980, et la situation actuelle au Canada. Par exemple :

(1) La séparation structurelle d'AT&T et des compagnies exploitantes de Bell (démantèlement) semble avoir coïncidé avec une période (unique, il est vrai) de coûts élevés. Certes, dans l'éventualité où la concurrence serait admise au Canada, il faudrait concevoir des mécanismes de séparation des coûts des services interurbains et locaux (une séparation structurelle n'est

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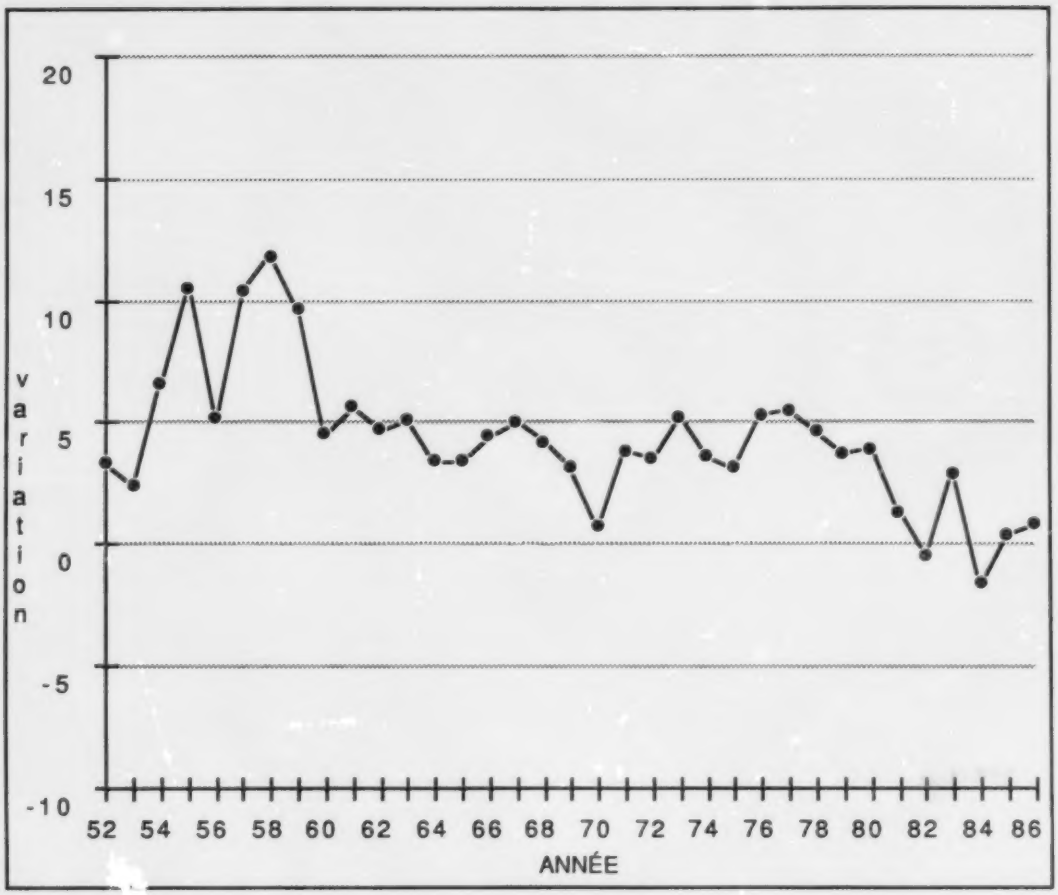
[83] David Chessler and Associates, étude commandée par le Groupe de travail. (Source originale : American Productivity Center, Multiple Input Productivity Indexes, Houston, 1987, Table V.4, p. 36.)

Graphique 4-5

Productivité multifactorielle
(Variation annuelle en pourcentage)



SOURCE: David Chessler and Associates, étude commandée par le Groupe de travail.

pas indispensable), mais les coûts connexes ne seraient pas nécessairement aussi élevés qu'ils l'ont été suite au démantèlement d'AT&T.

(2) Les tendances historiques des dépenses d'amortissement, qui représentent un coût majeur pour toutes les compagnies de téléphone, sont très différentes au Canada et aux États-Unis. De façon générale, les télécommunicateurs canadiens ont déjà adopté des pratiques d'amortissement qui équivalent aux mesures que les États-Unis viennent de prendre, si bien qu'il est peu probable que l'industrie canadienne connaisse des augmentations des frais d'amortissement aussi fortes que celles qu'ont connues les États-Unis.

Pour ce qui est d'appliquer les résultats des études micro-économiques à la modélisation financière élaborée au chapitre 6, aucun facteur numérique n'a été attribué à l'effet de la concurrence dans le service téléphonique interurbain sur la productivité des compagnies de téléphone. Les données disponibles reliant l'efficience-x à l'existence de la concurrence n'incluent pas de preuve empirique provenant de l'industrie des télécommunications. Le Groupe de travail n'a donc pu établir la variation quantitative spécifique de la productivité au niveau de la compagnie de téléphone, si tant est qu'il en existe, qui résulterait de la concurrence. De plus, les augmentations de coûts résultant de l'égalité d'accès et la perte d'économies d'échelle dont l'expert-conseil a tenu compte dans son examen de la productivité ont été directement intégrées à l'exercice de modélisation. Faute d'une mesure quantitative fiable de l'impact de la concurrence sur la productivité, le Groupe de travail a préféré adopter une méthode qui consiste à déterminer les gains de productivité particuliers que la concurrence devra générer pour compenser les répercussions négatives de la concurrence sur les revenus de chaque compagnie de téléphone.

4.2.3 Coût de l'accès accordé aux télécommunicateurs

Cette section porte sur les coûts que représente la modification du réseau téléphonique existant, dans le but de permettre aux compagnies concurrentes d'accéder au central local. S'ils se révélaient exorbitants, ces coûts pourraient influer sur la nature de l'entrée en concurrence. Une description technique des différents mécanismes d'accès pouvant être mis en oeuvre par les compagnies de téléphone précède la discussion des coûts. Il y a lieu de noter que, bien que certains de ces coûts ne seraient engagés que si l'entrée en concurrence était permise, d'autres le seraient, que la concurrence soit autorisée ou non.

4.2.3.1 Aspects techniques de l'accès accordé aux télécommunicateurs

Pour fournir des services interurbains, un télécommunicateur doit avoir accès aux abonnés locaux; autrement dit, un abonné éventuel doit être capable d'accéder au réseau du fournisseur de services interurbains à partir de son appareil téléphonique. Cela peut se faire par une ligne spécialisée fournie à l'abonné par la compagnie de services interurbains (appelé "accès spécialisé") ou par l'utilisation du réseau commuté de la compagnie fournissant le service local pour raccorder l'abonné au fournisseur de services interurbains (appelé "accès commuté"). L'accès spécialisé existe pour raccorder les fournisseurs de services

concurrentiels aux compagnies de téléphone dans le but de fournir, par exemple, le service de ligne privée. L'accès commuté est également offert a certains fournisseurs concurrentiels de services de transmission de données (pour leur permettre essentiellement de faire un appel local afin d'établir un raccordement de transmission de données).

L'accès commuté pourrait être offert aux fournisseurs de services interurbains concurrentiels par diverses méthodes dont la plupart exigeraient des modifications à l'équipement de commutation actuel et imposeraient ainsi des coûts à la compagnie de téléphone locale. Les méthodes sont différentes à divers titres, mais on peut grosso modo les catégoriser en fonction du mode de composition utilisé, du type de commutateur auquel le concurrent est raccordé et des données de signalisation et de supervision fournies au réseau téléphonique local.

Pour compléter et facturer un appel interurbain, il faut au minimum les renseignements ci-après: a) l'adresse de l'appelé (numéro de téléphone); b) l'identité de l'appelant; et c) une indication de l'heure du début et de la durée de la conversation. À l'heure actuelle, les abonnés n'ont généralement besoin que de donner le numéro de téléphone appelé. L'identité de l'appelant s'obtient au moyen de l'identification automatique du numéro (IAN), le début de la conversation est établi par un signal du réseau indiquant que l'on a répondu à l'appel (supervision de la réponse) et la fin de la conversation est indiquée par le raccrochement de l'une des parties (supervision de fin de communication). Presque partout au Canada, l'abonné établit la distinction entre un appel local (sans frais d'interurbain) et les autres appels en utilisant un préfixe d'appel ("1" pour la composition interurbaine automatique, "0" pour les appels acheminés par le téléphoniste, etc.).

Le réseau de la compagnie de téléphone inclut divers types d'équipement de commutation (centraux) désignés selon leur fonction. Les abonnés sont raccordés à de l'équipement de commutation appelé "centre local" au moyen de "lignes" téléphoniques. Les centres sont interconnectés par des "circuits", qui peuvent également être utilisés pour raccorder l'équipement de commutation de l'abonné (installations d'abonné avec postes supplémentaires ou PBX) au réseau. Certains centraux servent à établir les raccordements entre d'autres centraux; ils sont appelés centres de "transit". Les centres de transit utilisés pour commuter des appels interurbains, à cause de leur fonction particulière, sont appelés des centraux "interurbains". Un renvoi non modifié à un centre de transit vise généralement un centre de transit local, c'est-à-dire, un centre utilisé pour établir des raccordements entre des centres locaux situés dans la même zone d'appel local.

Un fournisseur de services de rechange doit raccorder son réseau à un central de la compagnie de téléphone pour obtenir l'accès commuté local. Le Groupe de travail a examiné 16 variations d'accès dans six catégories générales (types d'accès A à F), en vertu desquelles les compagnies de téléphone pourraient fournir

l'accès de qualité vocale.[84] Le tableau 4-6 présente une description sommairede ces diverses méthodes d'accès. Le graphique 4-7 illustre davantage l'interconnexion physique et les méthodes de composition connexes qui établissent la distinction entre les diverses méthodes d'accès.

Les installations d'un fournisseur de services de rechange qui sont raccordées au réseau téléphonique local sont appelées un "point d'occupation". Il peut en exister un ou plusieurs pour fournir l'accès local dans une localité particulière. L'accès commuté pour un point d'occupation particulier est appelé centre local, centre de transit ou raccordement interurbain, selon le type de central auquel le point d'occupation est raccordé (centre local, centre de transit local ou central interurbain, respectivement). Ce raccordement peut se faire au moyen d'une ligne téléphonique (raccordement de "ligne") ou d'un circuit (raccordement de "circuit").

Un abonné local peut se brancher sur le réseau d'un fournisseur de services de rechange en établissant un raccordement local entre son appareil téléphonique et le central auquel un point d'occupation d'un fournisseur de services de rechange existe. Cela peut se faire a) en composant un numéro local, b) en composant un pseudo-numéro universel (universel dans le sens que le même numéro serait utilisé partout où l'on pourrait accéder au fournisseur de services de rechange), c) en utilisant un préfixe spécial ou d) directement par arrangement préalable avec la compagnie locale ("préabonnement"). Le pseudo-numéro prendrait la forme "950-0XXX" (composé avec ou sans le préfixe "1") et le préfixe, la forme "10XXX". Dans les deux cas, "XXX" désigne un numéro d'identification unique de trois chiffres, associé à un fournisseur de services de rechange en particulier. Un raccordement terminal serait établi par un raccordement local du point d'occupation à la ligne d'abonné (en utilisant le numéro de l'appelé).

À moins d'utiliser un préfixe ou un préabonnement, l'appelant doit composer le numéro en deux étapes, d'abord en donnant l'adresse du point d'occupation et ensuite, après avoir obtenu une tonalité de point d'occupation, en composant le numéro appelé. Si le réseau n'identifie pas l'abonné (sans IAN), la seconde étape de la composition doit aussi comprendre l'identification de l'abonné (un numéro d'identité personnel ou NIP). Lorsqu'un préfixe ou un préabonnement est utilisé, seul le numéro appelé doit être donné, ce qui peut se faire dans une seule étape. (Ce dernier numéro ne serait utilisé que de concert avec la fourniture d'un IAN par la compagnie locale.)

La qualité du raccordement se mesure généralement en fonction de la fidélité sonore, de la facilité d'utilisation et du caractère suffisant de l'information aux fins de facturation. Des raccordements de haute qualité coûtent généralement plus cher à fournir; autrement dit, le télécommunicateur doit apporter un plus

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[84] Ces méthodes d'accès sont basées principalement sur deux documents soumis par Bell Canada au CRTC dans l'instance portant sur la concurrence intercirconscription - nommément, Bell Canada Report on the Resource Cost Study of Connecting Arrangement for Switched Access (CASA), September 1984; et Additional Information for Bell Canada Report on Resource Cost Study of Connecting Arrangement for Switched Access (CASA), 2 November 1984.

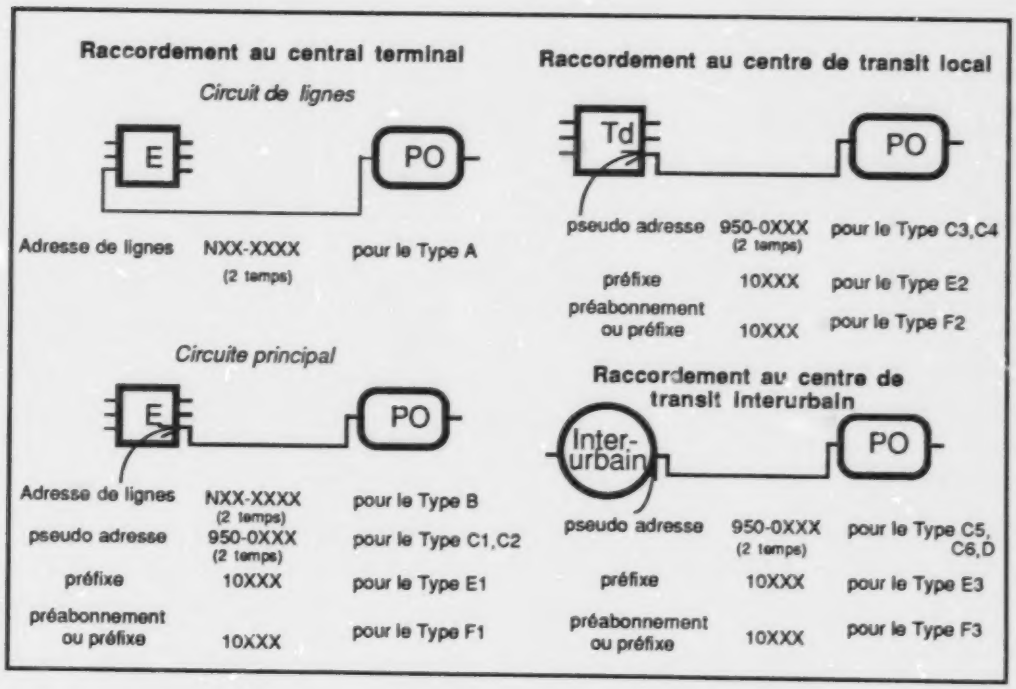
TABLEAU 4-6

Mécanismes d'accès à un central local

TYPE	CENTRAL DE DESSERTE	SÉQUENCE DE NUMÉROTATION	AVEC EAN	AVEC SRR	NOTES
A	Circuit de lignes-local	(1) NXX-XXXX	Non	Commutateurs PàP seulement	Abréviations: EAN - Enregistrement automatique des numéros SRR - Surveillance des réponses/raccrochages IR - Indicatif régional NIP - Numéro d'identification personnel PàP - Pas à pas MFDT - Multifréquences-double tonalité
B	Circuit principal-local	(2) NIP+IR+NXX-XXXX	Non	Commutateurs numériques seulement	
C1	Circuit principal-local		Non	Oui	
C2			Oui		
C3	Centre de transit-local	(1) 950-0XXX	Non		
C4		(2) NIP+IR+NXX-XXXX	Oui		
C5	Centre de transit-interurbain		Non		
C6			Oui		
D1	Centre de transit-interurbain	(1) 1+950-0XXX	Non	Oui	1. Pour la numérotation en deux temps, les abonnés doivent avoir une capacité de signalisation MFDT.
D2		(2) NIP+IR+NXX-XXXX	Oui		
E1	Circuit principal-local	10XXX+IR+NXX-XXXX	Oui	Oui	2. Avec EAN, il n'est pas obligatoire de composer son NIP.
E2	Centre de transit-local				
E3	Centre de transit interurbain				
F1	Circuit principal-local	1+IR+NXX-XXXX (préabonnement) 10XXX+IR+NXX-XXXX (fournisseurs de services de rechange)	Oui	Oui	3. Quand il y a enregistrement automatique du comptage des messages, les signaux de surveillance des réponses/raccrochages ne peuvent pas être transmis.
F2	Centre de transit-local				
F3	Centre de transit interurbain				

Graphique 4-7

Interconnexion et numérotation pour accéder à un central local



Note: 'PO' indique le point d'occupation d'un fournisseur de services de rechange

grand nombre de modifications à l'équipement et fournir plus de renseignements pour établir la communication et y mettre fin. Les méthodes d'accès présentées dans ces deux tableaux va du Type A (raccordement de ligne), que l'on considère comme donnant le raccordement de la moins bonne qualité, au Type F (l'équivalent de l'égalité d'accès aux États-Unis). Une description plus détaillée de chaque méthode d'accès se trouve à l'annexe B.

4.2.3.2. Coûts d'accès des télécommunicateurs

Les coûts d'accès à un nouveau fournisseur concurrent se divisent en deux catégories : premièrement, les coûts de départ, qui comprennent les coûts de transformation du central terminal, les coûts de transformation du central de desserte, les coûts d'exploitation et les coûts administratifs; et deuxièmement, les coûts courants, qui comprennent les coûts liés au réseau, les coûts de raccordement, les coûts d'exploitation et les coûts administratifs. Pour les diverses compagnies de téléphone au Canada, les coûts de chaque mécanisme d'accès ont été calculés à partir des données fournies par elles au Groupe de travail dont certaines à titre confidentiel. Ils ont été calculés pour chacun des scénarios de concurrence suivants :

a) Routes susceptibles de concurrence :

- routes reliant des centres de service régional ayant au moins 100 000 services d'accès au réseau;

- routes reliant des centres de service régional ayant au moins 25 000 services d'accès au réseau;

- routes reliant tous les centres.

b) Variations des parts du marché des nouveaux fournisseurs concurrents :

- 10 % de la part du marché dans les régions desservies par des télécommunicateurs concurrents;

- 20 % des parts du marché dans les régions desservies par des télécommunicateurs concurrents.

Les coûts de transformation du réseau qu'exige la composition en deux temps pour accéder à un nouveau fournisseur concurrent se situent, en moyenne, entre 0,00 $ et 0,50 $ par ligne (accès de Type A, B, C et D). Certains calculs donnent des coûts supérieurs à cette marque; mais, à l'exception des compagnies de téléphone les plus petites, il semble possible d'offrir, dans cette fourchette de coûts, une autre variante du type d'accès, ayant, en gros, la même capacité fonctionnelle. Ces types d'accès pourraient permettre de desservir tous les principaux centres (plus de 25 000 services d'accès au réseau, par ex., lignes d'abonnés) et une variante numérique de chaque type sauf B pourrait être utilisée ailleurs. Les configurations avec centre de transit local sont moins faciles à

desservir que d'autres, dans la mesure où le type de commutateur qu'elles exigent n'est pas utilisé partout au pays.

Les coûts de transformation du réseau qu'exige la composition en un temps pour accéder à un nouveau fournisseur concurrent varient généralement entre 0,20 $ et 15 $ par ligne, pour l'accès de Type E, et entre 4 $ et 20 $ par ligne, pour l'accès de Type F. Certains calculs donnent des coûts supérieurs; mais, à l'exception des compagnies de téléphone les plus petites, il semble possible d'offrir, dans cette fourchette de coûts, une autre variante de ce type d'accès, ayant, en gros, la même capacité fonctionnelle. Ces types d'accès pourraient permettre de desservir environ 80 % des abonnés résidant ailleurs que dans des régions peu peuplées. Les configurations avec centre de transit local ne sont pas aussi faciles à desservir que d'autres, pour la raison susmentionnée. Les coûts de transformation plus élevés de l'accès du type E et F sont attribuables aux coûts plus élevés engagéespour fournir des raccordements de meilleure qualité.

Les coûts courants d'un appel interurbain sont de l'ordre de 0,02 $ par minute, à l'arrivée et au départ, sauf pour l'accès de Type F, où il faut ajouter les coûts administratifs de préabonnement. Le montant des coûts de préabonnement est assez vague, d'autant plus qu'il est influencé par le taux de roulement annuel. Les coûts de l'accès de Type F sont également très influencés par le type de commutateur le plus utilisé dans la zone de desserte d'une compagnie de téléphone; les coûts de logiciel liés à l'égalité d'accès dépendent du nombre de lignes que le vendeur de commutateurs estime que ces derniers desserviront. Le taux de pénétration du marché n'a pas d'influence très marquée sur les coûts.

Les tableaux 4-8 et 4-9 présentent un résumé des coûts de transformation des réseaux et des coûts annuels courants encourus par les compagnies canadiennes pour établir et maintenir, respectivement, l'accès au réseau local de téléphone. Pour l'accès de Type A, les coûts de transformation sont nuls. Comme on pourrait s'y attendre, pour les autres types d'accès, ils augmentent en fonction du nombre de centres dans lesquels les fournisseurs concurrents établissent des points d'occupation. À l'échelle du Canada, les coûts totaux de transformation se situent entre un million de dollars environ (dollars de 1990) pour l'accès de Type B, lorsque les concurrents ne desservent que des centres régionaux ayant plus de 100 000 services d'accès au réseau, et à plus de 213 millions de dollars pour l'accès de Type E3, lorsque tous les centres sont desservis. Les coûts de transformation totaux pour l'accès de Type F varient entre environ 98 millions de dollars pour les centres de service régional comptant au moins 100 000 services d'accès au réseau, et environ 209 millions de dollars pour tous les centres. Les coûts courants dépendent de la part du marché ainsi que des autres variables précitées. À l'échelle du Canada, le total des coûts annuels courants d'accès varie d'environ 28 millions de dollars à 122 millions de dollars (dollars de 1986). On trouvera aussi à l'annexe B, le détail des coûts d'accès calculés par compagnie et pour chacun des scénarios prémentionnés, ainsi que la liste des villes dans lesquelles le nombre de services d'accès au réseau est égal ou supérieur à 25 000 et 100 000, respectivement.

TABLEAU 4-8

Coûts totaux de transformation des réseaux locaux canadiens nécessaires pour permettre l'accès aux fournisseurs concurrents de services interurbains*

(en millions de dollars de 1990)

TYPE D'ACCÈS	A	B	C1	C2	C3	C4	C5	C6	D1	D2	E1	E2	E3	F1	F2	F3
Centres régionaux ayant 100,000 SAR**	0	1	22	22	22	35	22	24	1	3	82	95	84	98	115	106
Centres régionaux ayant 25,000 SAR	0	3	46	46	47	93	47	49	2	5	125	172	129	130	191	144
Ensemble des centres	0	13	104	104	49	96	105	108	5	9	208	186	213	166	209	184

* En dollars de 1990. Estimations par le Groupe de travail selon les données présentées par les compagnies de téléphone.

** SAR - services d'accès au réseau (par ex., lignes d'abonnés). N'inclut pas les coûts pour la SaskTel dont les données sous-jacentes ont été fournies à titre confidentiel.

TABLEAU 4-9

Coûts courants annuels totaux des télécommunicateurs canadiens nécessaires pour permettre l'accès local aux fournisseurs concurrents de services interurbains*

(en millions de dollars de 1986)

TYPE D'ACCÈS		A	B	C1	C2	C3	C4	C5	C6	D1	D2	E1	E2	E3	F1	F2	F3
Centres régionaux ayant 100,000 SAR**	10 % des parts du marché	28	28	35	34	28	28	30	30	30	30	34	28	30	38	32	33
	20 % des parts du marché	55	56	70	68	56	55	60	55	60	59	68	55	59	75	63	67
Centres régionaux ayant 25,000 SAR	10 % des parts du marché	35	35	44	44	36	36	39	38	39	38	44	36	38	49	41	44
	20 % des parts du marché	70	71	89	87	71	71	77	70	77	75	87	71	75	98	83	87
Ensemble des centres	10 % des parts du marché	49	45	59	59	37	37	53	52	52	51	60	37	52	63	44	55
	20 % des parts du marché	96	88	119	115	71	72	103	94	103	101	116	72	101	122	85	107

* En dollars de 1986. Estimations par le Groupe de travail selon les données présentées par les compagnies de téléphone.

** SAR - services d'accès au réseau. N'inclut pas les coûts pour la SaskTel dont les données sous-jacentes ont été fournies à titre confidentiel.

4.3 Élasticité de la demande par rapport aux prix

4.3.1 Définition de l'élasticité de la demande par rapport aux prix

L'élasticité de la demande par rapport aux prix est une mesure qui permet d'évaluer de quelle façon les quantités demandées réagissent aux variations des prix, tous les autres facteurs restant constants; nous la définirons comme étant la variation en pourcentage des quantités demandées d'un produit, divisée par la variation en pourcentage du prix de ce produit. Les économistes distinguent trois fourchettes d'élasticité :

1) Élasticité par rapport aux prix : lorsque le prix baisse, la demande monte plus que proportionnellement.

2) Inélasticité par rapport aux prix : lorsque le prix baisse, la demande monte moins que proportionnellement.

3) Élasticité unitaire : lorsque le prix baisse, la demande monte proportionnellement, sans influencer les revenus.

Si la demande du SICT/WATS est élastique par rapport aux prix et si le prix baisse, les ventes brutes d'un plus grand nombre d'unités dépasseront les pertes limites de revenus dues à la baisse des prix, si bien qu'en fin de compte, il y aura augmentation des revenus bruts. Si la demande du SICT/WATS est inélastique par rapport aux prix, toute diminution des prix entraînera une diminution des revenus bruts.

L'élasticité de la demande du service SICT/WATS par rapport aux prix est donc une mesure de la capacité de variation des volumes demandés (c'est-à-dire le nombre et la durée des appels interurbains) en fonction des variations des prix, les autres facteurs restant constants. Les autres facteurs susceptibles d'influencer la demande du SICT/WATS comprennent en particulier : les niveaux de revenus et d'activités commerciales, les prix et les caractéristiques des produits de remplacement, et notamment lettres et télégrammes, l'envergure du réseau, la qualité du service, etc. En d'autres termes, ces facteurs doivent être aussi pris en considération pour déterminer la valeur exacte de l'élasticité de la demande par rapport aux prix.

4.3.2 Importance de l'élasticité de la demande par rapport aux prix

Lorsque l'on évalue l'opportunité d'autoriser la concurrence dans la prestation du service téléphonique interurbain public, l'élasticité de la demande par rapport aux prix apparaît comme un élément-clé pour déterminer l'impact d'une telle décision sur les revenus des compagnies de téléphone. L'ouverture du marché du service téléphonique interurbain public à une concurrence durable aurait, entre autres conséquences, une réduction de la part de marché détenue par les compagnies de téléphone en place. L'impact que cela aurait pour les télécommunicateurs existants serait cependant moins grave dans un contexte de croissance générale du marché (des revenus). En particulier, si la croissance générale du marché dépasse suffisamment la perte d'activités commerciales des compagnies de

téléphone due à l'instauration de la concurrence dans le service téléphonique interurbain public, les fournisseurs établis de ce service pourraient continuer à enregistrer une croissance de leurs revenus provenant de ce service, malgré la concurrence (et une perte de leur part du marché). Étant donné que la réduction des prix a pour effet de stimuler la demande générale du marché, il est important de comprendre dans quelle mesure le marché répondra aux réductions de prix. De toute évidence, il est beaucoup plus acceptable pour les compagnies de téléphone d'envisager de continuer à accroître leurs revenus malgré la concurrence, plutôt que voir diminuer leurs revenus provenant du service téléphonique interurbain.

C'est pourquoi, dans la mesure où la concurrence dans la prestation de ce service est liée à la réduction des tarifs, l'élasticité de la demande totale du marché par rapport aux prix aura une incidence sur le niveau général des revenus du marché. Si la demande est élastique (c'est-à-dire, si l'élasticité par rapport à la fourchette pertinente de variations de la fonction demande est supérieure à un, en valeur absolue), alors, tous les autres facteurs étant égaux, les revenus totaux (de l'ensemble du marché) augmenteront, et une part plus grande du marché pourra être partagée par les compagnies de téléphone et les nouveaux concurrents. Par contre, si la fonction demande est inélastique (c'est-à-dire si la valeur absolue de l'élasticité de la demande par rapport aux prix est inférieure à un), alors, les autres facteurs restant égaux, les revenus totaux (de l'ensemble du marché) diminueront, en cas de baisse des tarifs du service téléphonique interurbain public.

En outre, il est important de se demander si l'introduction de la concurrence peut, en elle-même, avoir un impact sur les élasticités d'ensemble de la demande par rapport aux prix. Cela est possible, par exemple, si les variations de la structure du marché du service téléphonique interurbain public entraînent une modification de la courbe de la demande, ou encore, des variations le long de cette courbe, au point d'entraîner une nouvelle élasticité.

4.3.3 Élasticité des valeurs de la demande par rapport aux prix

Le Groupe de travail a chargé une firme d'experts-conseils de réaliser une étude permettant d'analyser et d'évaluer d'un point de vue critique les ouvrages spécialisés consacrés à l'élasticité de la demande du service téléphonique interurbain public par rapport aux prix au Canada. Cette étude, intitulée "Élasticité-prix de la demande pour les services interurbains" a été effectuée par la firme Steven Globerman Associates Ltd., de Vancouver.

À la lumière des renseignements disponibles, les experts-conseils sont arrivés à la conclusion que les estimations les plus plausibles des élasticités de la demande par rapport aux prix sont les suivantes :

SICT intracompagnie :	−0,5	à	−0,7
SICT intercompagnie :	−0,55	à	−0,85
SICT Canada/É.-U. :	−0,65	à	−1,00
SICT international :	−0,6	à	−1,20

Les experts n'ont trouvé que des données fort minces et parfois aberrantes concernant l'élasticité de la demande du SICT par rapport aux prix. Ils affirment cependant que la demande est plus élastique par rapport aux prix dans le cas du WATS que dans le cas du SICT, pour le service d'affaires. Selon eux, cela tient au fait que le SICT a un pouvoir de substitution du WATS beaucoup plus grand que le contraire, pour l'ensemble des abonnés du service d'affaires. Les experts font remarquer qu'à l'heure actuelle, les estimations de l'élasticité du SICT tiennent compte des effets d'une combinaison de variations de prix, tant au niveau du SICT que du WATS.[85]

Vu l'incertitude du sujet, pour le moment, mieux vaut exprimer l'estimation de l'élasticité de la demande par rapport aux prix par des fourchettes de valeurs plutôt que par des points. Bien que les experts-conseils aient déterminé les fourchettes de valeurs qu'ils estimaient les plus plausibles, d'autres études trouvent des valeurs à la fois supérieures et inférieures à ces fourchettes.[86] Par exemple, pour ce qui est des études que les experts-conseils ont examinées, les valeurs de l'élasticité de la demande du service téléphonique interurbain public varient d'environ -0,4 à bien au-delà de -1,0. Pour effectuer les analyses financières présentées au chapitre 6, on a utilisé les valeurs médianes des fourchettes définies par les experts. Compte tenu du caractère vague du degré d'élasticité, des tests de sensibilité ont été effectués avec les valeurs extrémités des fourchettes définies par les experts et avec des valeurs notées par les experts-conseils et situées en dehors de ces fourchettes. Les résultats obtenus sont rapportés au chapitre 6.

Les experts ont également envisagé plusieurs façons dont l'entrée de la concurrence peut affecter l'élasticité de la demande du service téléphonique interurbain public par rapport aux prix - et, plus précisément, ils se sont demandés si l'arrivée de la concurrence peut avoir un impact sur les renseignements dont disposent les abonnés, peut modifier la "fidélité à une seule marque" des acheteurs et (ou) peut favoriser l'augmentation du nombre des acheteurs potentiels. Les auteurs font remarquer que les relations mises à jour sont subtiles et, dans l'ensemble, ne présentent pas d'importance empirique. Une concurrence ouverte, sous quelque forme que ce soit, concluent-ils, peut entraîner une diminution de l'élasticité de la demande par rapport aux prix. Cependant, ils n'estiment pas que celle-ci puisse être suffisamment importante pour affecter les fourchettes d'estimations de l'élasticité présentées plus haut.

4.4 Répercussions macroéconomiques de la concurrence

Ce paragraphe discute des données disponibles concernant les répercussions d'ensemble que la concurrence du service téléphonique interurbain public pourrait avoir sur l'économie canadienne dans son ensemble. Dans ce cas particulier, les travaux de recherche du Groupe de travail ont consisté, entre autres, à réviser

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[85] Pour d'autres discussions sur les répercussions hybrides, voir Steven Globerman Associates Ltd., étude commandée par le Groupe de travail.

[86] Voir ibid, pour un résumé de ces autres études (tableau 1).

plusieurs études canadiennes et américaines ayant pour but de prédire les effets macroéconomiques d'une baisse ou d'un rééquilibrage des tarifs interurbains. Bien que n'étant pas explicitement consacrées à la détermination des répercussions macroéconomiques de la concurrence, elles n'en étudient pas moins les répercussions des variations tarifaires susceptibles d'intervenir dans un contexte de concurrence. Notons que d'autres mesures de l'impact économique comme des études microéconomiques de l'excédent de consommation) ne font pas ici l'objet de rapport, bien que de telles mesures aient tendance à corroborer les conclusions des études macroéconomiques étudiées.

4.4.1. Répercussions des variations de tarif en matière de télécommunications sur l'économie nationale

4.4.1.1 Utilisation de modèles macroéconomiques

Les modèles macroéconomiques permettent d'évaluer les répercussions des différentes options de politiques des prix et autres sur l'économie nationale. Ces modèles s'appuient normalement sur des centaines d'équations dérivées par des procédés économétriques dans le but de faire apparaître le fonctionnement et les interrelations de différents aspects de l'économie. On part habituellement d'un "cas de base" qui reflète la façon dont l'économie est censée se comporter, nonobstant un changement majeur de politique. On intègre, ensuite, un tel changement de politique au modèle en ajustant comme il convient le cas de base, et les différences d'effets ou de répercussions constatées sont alors comparées.

Lorsque l'on utilise ce genre de modèles pour estimer les effets macroéconomiques de la concurrence dans le service interurbain, il est généralement nécessaire de calculer et d'intégrer à chaque modèle un indice global des prix faisant état des répercussions de l'entrée de la concurrence. D'autre part, dans un scénario non concurrentiel, si le niveau global des prix utilisés dans le modèle est inférieur à ce qu'il est dans le cas de base, alors on peut s'attendre à des résultats macroéconomiques positifs. Par contre, si le niveau global des prix est plus élevé, on peut généralement s'attendre à des résultats macroéconomiques négatifs.

Le calcul des modifications au niveau global des prix du service téléphonique est une question complexe où entrent en ligne de compte les différences de structure tarifaire susceptibles d'intervenir dans un contexte de concurrence, les effets au niveau de la productivité capables d'avoir un impact sur les services locaux et interurbains, les variations dues à la nature des économies d'échelle et de portée réalisées, la stimulation de la demande et ses capacités d'affecter les revenus et, par là, les tarifs, etc. Comme nous l'avons vu aux précédents paragraphes de ce chapitre, les données disponibles ne permettent pas de tirer de conclusions sur les relations qui existent entre la concurrence et les facteurs qui pourraient influer sur le niveau global des prix. C'est pourquoi il n'est pas possible, pour le moment, d'affirmer si, oui ou non, la concurrence entraîne des effets macroéconomiques positifs ou négatifs.

Quoi qu'il en soit, un certain nombre d'études canadiennes et américaines ont étudié les effets de la restructuration des tarifs en matière de télécommunications, qu'elle se traduise par une réduction des tarifs interurbains, ou par une réduction des tarifs interurbains combinée à une augmentation des tarifs locaux, mais sans que la rentabilité d'ensemble des compagnies de téléphone change (c'est ce que l'on appelle généralement le rééquilibrage des tarifs). On peut intuitivement s'attendre à ce que les réductions des tarifs interurbains aient des effets positifs sur l'économie, du fait que les consommateurs pourraient acheter des produits ou services donnés à des prix plus bas. Cependant, ces effets positifs sont beaucoup moins évidents à partir du moment où la réduction des tarifs interurbains s'accompagne d'une augmentation des tarifs locaux. Cependant, dans le cas des services locaux, l'augmentation des prix n'entraînerait qu'un léger ralentissement de la demande en raison de la nature très inélastique de celle-ci. Quant au marché interurbain, la réduction des prix aurait pour effet de stimuler la demande, qui est relativement plus élastique. Tout cela provoquerait en général une réduction d'ensemble du niveau des prix globaux totalisés des services de télécommunications. Le résultat net serait la stimulation de la demande des services de télécommunications et, (indirectement), de l'économie dans son ensemble.

Dans la mesure où concurrence égale rééquilibrage des tarifs, les études apparaissent comme des indicateurs importants des répercussions macroéconomiques de la concurrence. Il ne faut toutefois pas oublier qu'elles se limitent aux effets de la restructuration des tarifs -- ce qui pourrait se faire même sans entrée en concurrence. Elles ne tiennent pas nécessairement compte des divers autres facteurs susceptibles d'affecter le niveau global des prix, en régime concurrentiel.

4.4.1.2 Révision des ouvrages macroéconomiques spécialisés

Plusieurs études macroéconomiques ont été effectuées au cours des dernières années, tant au Canada qu'aux États-Unis, dans le but de prédire les répercussions macroéconomiques d'une diminution des tarifs interurbains ou d'un rééquilibrage des tarifs. Le tableau 4-10 résume les résultats de six études canadiennes consacrées à ce sujet. Elles se servent de modèles applicables à l'économie canadienne et développés par Informetrica Ltd., Data Resources Inc.

TABLEAU 4-10

Résultats de quelques modèles macroéconomiques canadiens

MODÈLE	L'ÉLASTICITÉ DE LA DEMANDE PAR RAPPORT AU PRIX	PRODUIT BRUT	EMPLOI	INDICE(S) DES PRIX GLOBAUX	AUTRES
INFORMETRICA (1984)	"Le rééquilibrage" entraine une réduction de 10,5 % du prix global des télécommunications; l'élasticité pour les services interurbains égale -0,4.	Augmentation du PIB de 2 milliards de dollards (en dollars de 1983) au cours de la cinquième année. (0,44 %).	Augmentation de 12 000 emplois au cours de la cinquième année (0,10 %).	Dans l'ensemble à la baisse.	Augmentation de 885 millions de dollars (en dollars courants) des recettes nettes du gouvernement au cours de la cinquième année.
INFORMETRICA (1986)	Pour le service d'affaires, les tarifs des télécommunications varient en moyenne de -13 %, sans rééquilibrage. Déduction possible: élasticité très faible.	Augmentation du PIB de 330 millions de dollars (en dollars de 1971) au cours de la cinquième année. (0,21 %).	Augmentation de 22 000 emplois au cours de la cinquième année (0,17 %).	Dans l'ensemble à la baisse.	Effets favorables sur la production provinciale, pour toutes les provinces.
INFORMETRICA (1987)	Modalisation du "rééquilibrage" proposé par Bell au CRTC en 1987. L'élasticité est de -0,4.	Augmentation du PNB de 670 millions de dollars (en dollars de 1986) sur une période de 3 ans	Augmentation annuelle moyenne d'environ 1 900 emplois, sur trois ans.	Dans l'ensemble à la baisse.	Augmentation d'environ 235 millions de dollars des recettes nettes du gouvernement sur trois ans.
DRI (1985)	Réduction de 15 % des tarifs interurbains, sans "rééquilibrage". L'élasticité est de -1,1 (service d'affaires) et de -1,5 (service de résidence).	Augmentation du PNB de 1,8 milliard (en dollars de 1971) sur cinq ans. (0,2 à 0,3 %)	Augmentation annuelle moyenne d'environ 17 000 emplois, sur cinq ans. (0,1 à 0,2 %)	Dans l'ensemble à la baisse.	Répercussions deux fois plus marquées et diminution de 30 % des tarifs.
DRI (1986)	Réduction générale de 26,3 % des tarifs interurbains sans "rééquilibrage". La fourchette d'élasticité varie de -1,1 (service d'affaires) et de -1,5 (service de résidence).	Augmentation de 675 millions de dollars du PNB (en dollars de 1971) au cours de la dixième année. (0,3 %)	Augmentation de 14 000 emplois au cours de la dixième année. (0,1 %)	Au départ, à la baisse, pour tendre légèrement à la hausse au cours des dernières phases de la dixième année de stimulation de la production.	Le modèle régional indique des effets positifs au niveau de la production régionale, pour toutes les régions (au nombre de 7).
WHARTON (1987)	Modélisation du "rééquilibrage" proposé par Bell au CRTC en 1987. L'élasticité est de -0,4.	Augmentation du PIB de 435 millions de dollars (en dollars de 1986) sur trois ans	Augmentation annuelle moyenne de 2 100 emplois sur trois ans.	Dans l'ensemble à la baisse.	Augmentation des recettes nettes du gouvernement.

SOURCES: Data Resources, Inc. (DRI) of Canada, "The Macroeconomic Impact of Reducing Long-Distance Telephone Rates," 1985; DRI, "The Macroeconomic and Regional Impacts of Reducing Long-Distance Telephone Rates," 1986; Informetrica Ltd., "The Macroeconomic Impacts of Bell's Rate Restructuring Proposal," 1984; Informetrica Ltd. with Johnson Associates, in D.A. Ford and Associates, "The Impacts of International Competition on the Canadian Telecommunications Industry and Its Users," 1986; Informetrica Ltd., "Macroeconomic Impacts of Rate Rebalancing," 1987; Wharton Econometric Forecasting Associates, "The Effects of Rate Rebalancing on the Canadian Economy," 1987.

(DRI) of Canada et Wharton Econometric Forecasting Associates.[87] Comme l'illustre le tableau, on peut s'attendre à des effets modestes mais positifs, au niveau du Produit national brut (PNB) ou du Produit intérieur brut (PIB), de l'emploi, des revenus du gouvernement et d'autres indicateurs n'apparaissant pas ici.

L'inflation pourrait baisser au cours des années suivant immédiatement les variations tarifaires, bien que l'étude de DRI prévoit une inflation légèrement plus forte au cours des dernières phases de sa période de dix ans de stimulation de la production.

Les résultats des études de modélisation varient sur deux points particulièrement intéressants : tout d'abord, pour ce qui est des valeurs de l'élasticité de la demande par rapport aux prix des interurbains; et, deuxièmement, selon qu'il y a ou non rééquilibrage des tarifs. Les études d'Informetrica et de Wharton donnent la valeur −0,4 à l'élasticité de la demande par rapport aux prix, alors que l'étude DRI emploie des valeurs situées dans une fourchette de −1,1 (service d'affaires) et −1,5 (service de résidence). Ces deux dernières estimations dépassent de beaucoup les fourchettes considérées comme étant les plus probables par Globerman (section 4.3.3). Les études DRI et Informetrica (1986) n'ont pas tenu compte du rééquilibrage des tarifs, mais il est intégré aux modèles des trois autres. Pourtant, malgré des différences de spécification apparemment radicales, les résultats obtenus sont raisonnablement similaires : dans l'ensemble, des avantages économiques sont obtenus grâce aux rééquilibrage des tarifs ou à la réduction des tarifs interurbains, bien qu'ils s'atténuent légèrement quand on retient les hypothèses les plus basses concernant l'élasticité de la demande par rapport aux prix.

Plusieurs études macroéconomiques consacrées à la restructuration des tarifs des services téléphoniques aux États-Unis sont pertinentes pour le Canada. En 1983, la firme Wharton Econometric Forecasting Associates s'est servie du modèle de l'économie américaine pour évaluer les effets des réductions des tarifs interurbains accordées pour compenser les augmentations des frais mensuels fixes,

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[87] Informetrica Ltd., "The Marcroeconomic Impacts of Bells' Rate Restructuring Proposal," étude commandée par Bell Canada, 1984; Informetrica Ltd. with Johnson Associates, in D.A. Ford and Associates, "The Impacts of International Competition on the Canadian Telecommunications Industry and Its Users," étude commandée conjointement par les gouvernements de l'Alberta, du Manitoba, du Nouveau-Brunswick, de Terre-Neuve, de la Nouvelle-Écosse, de l'Ontario, de l'Île-du-Prince-Édouard, du Québec, de la Saskatchewan et du Canada, 1986; Informetrica Ltd., "Macroeconomic Impacts of Rate Rebalancing," étude commandée par Bell Canada, 1987; Data Resources (DRI) of Canada, 1986; Informetrica Ltd., "The Macroeconomic Impact of Reducing Long-Distance Telephone Rates," étude commandée par les Telecommunications CNCP, 1985; DRI, "The Macroeconomic and Regional Impacts of Reducing Long-Distance Telephone Rates," étude commandée par le CNCP, 1986; Wharton Econometric Forcasting Associates, "The Effects of Rate Rebalancing on the Canadian Economy," étude commandée par Bell Canada, 1987.

dans le but de ne pas affecter les fournisseurs.[88] Dans un modèle ultérieur, on est parti de l'hypothèse d'une diminution de 10 % des tarifs interurbains aux États-Unis, sans augmentation des tarifs locaux.[89] Comme dans le cas des études canadiennes, ces exercices de modélisation ont prédit des répercussions économiques positives. Un modèle rétrospectif a été construit en 1986 pour analyser les effets de la restructuration des tarifs effectivement intervenue aux États-Unis pendant la période 1984 à 1986.[90] Les résultats obtenus révèlent que la restructuration des tarifs des services téléphoniques a eu des effets beaucoup plus importants, en termes réels et monétaires -- en plus d'entraîner une augmentation de la production et une diminution de l'inflation -- que si elle n'avait pas eu lieu.

Les membres du Groupe de travail signalent qu'il ne faut utiliser les résultats de ces études qu'en toute connaissance des hypothèses sous-jacentes.

4.5 Résumé des renseignements disponibles

Les renseignements que le Groupe de travail a obtenus au sujet des facteurs techniques, opérationnels et économiques sont, pour la plupart, peu concluants pour ce qui est de la question de savoir si le service téléphonique interurbain public doit ou non être fourni en régime monopolistique de préférence à un régime concurrentiel. Du point de vue technique et opérationnel, l'expérience américaine semble indiquer que la concurrence dans les services SICT/WATS dans ce pays s'est traduite davantage par une variété de prix que par l'innovation dans le service. Il y a sans aucun doute eu innovation dans le service, mais elle ne peut être reliée de manière concluante à l'existence d'une concurrence.

Les renseignements sur la question de savoir s'il existe des économies d'échelle par rapport aux prix dans la prestation d'un service téléphonique interurbain public ne sont pas concluants, sauf pour l'existence possible d'économies d'échelle dans le réseau de transmission. Ne le sont pas non plus les répercussions de la concurrence sur la productivité (coût par unité d'extrant) dans la prestation d'un service téléphonique interurbain public. Des données plus définitives sont, cependant, disponibles au sujet des coûts de modification du réseau téléphonique en place pour offrir aux concurrents l'accès commuté à la circonscription locale. Ces coûts varient entre zéro et près de 213 millions de dollars, selon le genre d'accès et le nombre de collectivités visés. Les coûts courants d'accès sont évalués à près de 2,00 $ la minute à l'arrivée et au départ d'un appel interurbain.

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[88] Wharton Econometric Forecasting Associates, "Impact of the FCC Access Charge Plan on the U.S. Economy," étude commandée par AT&T, 1983.

[89] Wharton Econometric Forecasting Associates, "Impact of Regulation of the Long-Distance Telecommunications Market on the U.S. Economy," étude commandée par AT&T, 1984.

[90] Wharton Econometric Forecasting Associates, "Pricing Telecommunications Services: The Impact on the U.S. Economy of Subscriber Line Charges," étude commandée par AT&T, 1986.

Ces coûts, s'ils sont jugés prohibitifs, pourraient influer sur la nature de l'entrée concurrentielle.

En maintenant les autres facteurs constants l'expert-conseil retenu par le Groupe de travail a jugé l'élasticité de la demande, -- évaluation de la rapidité de réaction aux variations de prix par rapport à la quantité demandée -- généralement inélastique pour le service téléphonique interurbain public. Ainsi, dans la mesure où cette concurrence est associée à des tarifs interurbains réduits, les revenus globaux (marché total) diminueront probablement. Le Groupe de travail note que les renseignements ont été présentés pour les valeurs d'élasticité extérieures à la marge d'élasticité la plus probable qu'il a identifiée. Ces valeurs comprennent davantage de prévisions inélastiques et élastiques, lesquelles se traduiraient par une autre baisse ou une augmentation des revenus, respectivement.

L'incertitude quand au rapport entre la concurrence interurbaine et les divers facteurs qui peuvent modifier le niveau de prix global du service téléphonique (économies d'échelle et portée, productivité, etc.) ne permet pas de déterminer les répercussions macroéconomiques de la concurrence dans le service téléphonique interurbain public. Dans la mesure, cependant, où une restructuration tarifaire aurait lieu à la suite de la concurrence ou de mesures de réglementation -- soit des réductions des tarifs interurbains soit des réductions des tarifs interurbains ainsi que des majorations de tarifs locaux qui compensaient, (laissant inchangée la rentabilité globale des compagnies de téléphone) -- les études disponibles indiquent qu'il en résulterait des avantages macroéconomiques modestes mais positifs.

5.0 NATURE DE L'ENTRÉE EN CONCURRENCE DANS LE MARCHÉ DES SERVICES TÉLÉPHONIQUES INTERURBAINS AU CANADA

Ce chapitre décrit les principales caractéristiques qui pourraient s'appliquer à la prestation du service téléphonique interurbain public en régime concurrentiel au Canada. La situation est examinée à la lumière de modèles de concurrence éventuels; des répercussions de la concurrence sur l'universalité d'un service téléphonique à prix abordables; des nouveaux entrants possibles; et des scénarios spécifiques d'entrée en concurrence. Ce chapitre a également pour but de présenter certains concepts utilisés au chapitre 6 pour analyser les répercussions financières de l'entrée en concurrence.

5.1 Modèles de concurrence

Dans cette section, trois modèles généraux de mélange de réglementation et de concurrence dans le marché interurbain sont étudiés. Ils vont de la concurrence non réglementée à la concurrence totalement réglementée. Il est également question d'un modèle de réglementation du télécommunicateur dominant. Chacun de ces modèles a pour principal thème le degré de réglementation ou, au contraire, le degré de liberté dans le marché dont les fournisseurs de services jouiraient.

5.1.1 Modèle du marché concurrentiel non réglementé

Un marché interurbain complètement déréglementé représente un scénario extrême. Il faudrait, de toutes façons, que les services monopolistiques restants continuent d'être réglementés et qu'une surveillance très attentive soit assurée pour détecter les cas d'interfinancement. Il faudrait donc trouver un moyen de dissocier les revenus et les coûts de chaque service, au niveau comptable ou au niveau structurel.

Selon la théorie de la concurrence, dans un marché concurrentiel non réglementé, les prix et les niveaux de production de l'entreprise sont tels que les prix égalent les coûts moyens à long terme, si bien que les coûts totaux sont recouvrés. Cela sous-entend que, pour chaque service fourni par une entreprise multiproduit, il existe des coûts de causalité et que le prix de l'ensemble des produits vendus par l'entreprise devra lui permettre de recouvrer ses coûts totaux. En général, si une entreprise exploitant dans un milieu concurrentiel ne recouvrait pas au moins les coûts de causalité de la prestation de chaque service, ces services lui feraient perdre de l'argent et elle cesserait de les fournir.

Dans un marché réglementé, les prix sont fixés par l'organisme de réglementation et non par le marché, et les prix des services individuels, service par service, peuvent ne pas être égaux aux coûts de causalité. Cependant, le prix de l'ensemble des biens produits par l'entreprise doit généralement être fixé en fonction du coût total. C'est précisément la situation dans laquelle se trouve à l'heure actuelle l'industrie du téléphone au Canada, en ce sens que c'est une industrie réglementée et que la tarification de certains services téléphoniques ne correspond pas aux coûts de causalité. Les données déposées auprès du CRTC dans le cadre de la Phase III de l'Enquête sur le prix de revient révèlent que, pour Bell Canada et B.C. Tel, par exemple, les revenus provenant des services interurbains

monopolistiques sont les principaux éléments qui contribuent à recouvrer le manque à gagner dans la catégorie des coûts d'accès.[91] De même, selon l'hypothèse qui sous-tend les exercices de modélisation financière présentés au chapitre 6, les tarifs actuels des services interurbains sont supérieurs aux coûts de causalité.

C'est pourquoi, si l'on ouvrait -- totalement ou en partie -- le marché interurbain à la concurrence, des pressions s'exerceraient pour que la tarification s'aligne davantage sur les prix du marché concurrentiel (ignorons pour l'instant le rôle des frais de contribution des télécommunicateurs qui sera étudié à la section 5.2). Le marché du service téléphonique interurbain attirerait de nouveaux entrants et, si l'on n'intervenait pas, la concurrence entraînerait une baisse des tarifs des fournisseurs de services en place. Des pressions s'exerceraient pour une majoration des tarifs des services dont on suppose que le prix serait inférieur aux coûts de causalité même s'ils sont fournis en régime monopolistique. Notons que, théoriquement, des variations des prix réglementés (par le truchement du rééquilibrage des tarifs, par exemple) pourraient produire les mêmes effets.

La discussion suivante, qui est consacrée à la façon dont les tarifs des compagnies de téléphone sont susceptibles de réagir à la concurrence, est peut-être également valable pour d'autres modèles de concurrence. Cependant, puisqu'il s'agit de réactions générales suscitées par la concurrence, il convient d'en parler dans le cadre de l'examen du modèle le plus concurrentiel qui existe. Confrontées à la perspective ou à la réalité de la concurrence interurbaine, les compagnies de téléphone ont le choix entre au moins deux méthodes pour ajuster leurs tarifs : la restructuration des tarifs, afin que les tarifs des principales catégories de services individuels s'alignent sur les coûts, d'une part, et l'application de tarifs concurrentiels pour certains services, d'autre part. On trouvera aux sections suivantes une discussion de la façon dont les compagnies de téléphone peuvent intervenir sur leurs tarifs, dans chacun de ces deux cas.

5.1.1.1 Incitations à la restructuration des tarifs

Les compagnies de téléphone prétendent que les tarifs d'un grand nombre de leurs services ont été fixés en vertu de pratiques de tarification visant à promouvoir l'universalité du service, qu'il s'agisse de la tarification selon la valeur du service, ou de la tarification selon des tarifs moyens de route ou des tarifs moyens à la grandeur de la compagnie. Par conséquent, elles font valoir que les tarifs de nombreux services ne correspondent pas aux coûts sous-jacents de ces services.

Parmi les principales sources de disparité qui peuvent exister dans le rapport coûts/prix, il y a : les écarts de coûts qui existent entre certaines régions (urbaines/rurales) et sur certaines routes (à haute densité/faible densité et courte c. grande distance) mais qui n'apparaissent pas dans les prix en raison, par

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[91] Décision Télécom CRTC 85-10 du 25 juin 1985, intitulée Enquête sur les méthodes comptables et analytiques des sociétés exploitantes de télécommunications: Phase III - Le prix de revient des services existants; Résultats de la Phase III de Bell Canada et de B.C. Tel, septembre 1987.

exemple, d'un regroupement tarifaire ou de l'établissement de tarifs moyens de route; des écarts qui existent entre les tarifs payés par les abonnés des services de résidence et d'affaires et qui ne sont pas justifiés par les coûts; et, le plus important, des services interurbains qui sont tarifés à un niveau bien supérieur aux coûts, alors que les services locaux (y compris les frais d'accès aux abonnés) sont tarifés à un niveau sensiblement inférieur aux coûts.

Les compagnies de téléphone affirment qu'en tarifant certains services à un niveau bien supérieur à leurs coûts de causalité, on crée artificiellement des incitations à l'entrée en concurrence. Ces incitations n'entraînent pas simplement des occasions d'entrée non économique mais encore, en régime concurrentiel, elles risquent de favoriser la recherche exclusive des marchés lucratifs ou des routes à haute densité (par exemple, Québec–Windsor, Calgary–Edmonton, Vancouver–Victoria), pouvant entraîner une érosion rapide des revenus nécessaires au recouvrement des coûts d'accès.

5.1.1.2 Restructuration des tarifs

Certaines compagnies de téléphone canadiennes ont proposé une forme particulière de restructuration des tarifs, à savoir le rééquilibrage des tarifs. Il s'agit d'abaisser les tarifs interurbains tout en relevant proportionnellement les tarifs locaux, de façon à ne pas influer sur les revenus nets de la compagnie. Le rééquilibrage a été présenté comme un outil permettant de rapprocher les revenus des coûts de certains services, en particulier les services interurbains et locaux monopolistiques. Pour répondre à la concurrence, le rééquilibrage peut s'avérer un moyen d'encourager l'utilisation efficiente des ressources, de décourager l'entrée non économique et de contrôler le niveau des hausses des tarifs locaux pour les abonnés. Le concept du rééquilibrage se fonde implicitement sur l'hypothèse que l'interurbain contribue à l'heure actuelle dans une grande mesure au recouvrement des coûts d'accès des abonnés.

Il y a essentiellement deux façons d'aborder le rééquilibrage des tarifs du service interurbain et du service local. La première, proposée par Bell Canada, consiste à recouvrer les coûts d'accès des abonnés en les répercutant sur les tarifs du service local. La deuxième, celle que la FCC aux États–Unis a adoptée, consiste à facturer séparément les frais d'accès aux abonnés, sur une base individuelle.

Simultanément, ou comme solution de rechange au rééquilibrage des tarifs du service interurbain et du service local, les compagnies de téléphone pourraient essayer de recouvrer leurs revenus par le truchement d'autres genres de restructuration des tarifs, notamment en majorant les tarifs des services de lignes directes bénéficiant d'un escompte de volume. Cela limiterait les occasions de revente et l'érosion des revenus en résultant. Cela permettrait également d'accroître la contribution des abonnés de lignes directes, contribution qui est relativement moins importante que celle des abonnés du SICT/WATS. Ce faisant, on risque toutefois de multiplier les incitations à l'évitement.

5.1.1.3 Compétitivité des tarifs en réaction à la concurrence

En réaction à la concurrence, on peut envisager d'autres formules de tarification plus souples, notamment la suppression des tarifs moyens dans certaines régions géographiques, le dégroupage des tarifs, l'octroi de rabais spéciaux à titre promotionnel, l'octroi de réductions au volume et, encore, l'utilisation d'ententes contractuelles plutôt que de tarifs généraux. Pour l'essentiel, chacune de ces formules permettrait aux compagnies de téléphone d'établir une distinction entre leurs abonnés ou catégories d'abonnés, tout en observant les contraintes d'une tarification fondée sur les coûts. Une telle structure tarifaire permettrait aux compagnies d'offrir des tarifs compétitifs, correspondant aux coûts réels des installations (techniques) sous-jacentes. Les compagnies pourraient également proposer des services et des contrats conçus pour répondre aux besoins et aux budgets spécifiques de tels ou tels abonnés.

Au Canada, les tarifs des services interurbains sont généralement indépendants de la route, c'est-à-dire que l'on applique des tarifs moyens de route. Les tarifs des routes à haute densité, par exemple, ne tiennent compte ni des économies que représente la mise en place d'installations à forte capacité, ni de l'efficience associée à l'acheminement d'un plus important volume de trafic par circuit.

Tant qu'il y aurait des économies de coûts à réaliser sur les routes à forte densité et tant que les tarifs seraient les mêmes pour toutes les routes, les concurrents seraient incités à pénétrer de préférence le marché interurbain sur les routes à forte plutôt qu'à faible densité. À moins que la réglementation n'exige des tarifs moyens de route, les compagnies de téléphone auraient tendance à réagir en abaissant leurs tarifs sur les routes à forte densité, afin de préserver leur part du marché.

L'examen de l'expérience de la concurrence dans la prestation du service interurbain telle qu'elle est vécue par certains pays étrangers (chapitre 3) révèle que le problème a été traité de différentes manières. Aux États-Unis, la politique de la FCC consiste à interdire catégoriquement dans certaines régions géographiques la suppression des tarifs moyens interétats d'AT&T. La FCC a stipulé qu'AT&T devait maintenir une structure tarifaire moyenne à l'échelle nationale et offrir les mêmes programmes de rabais spéciaux dans tout le pays, non pas dans les seules régions touchées par la concurrence. Les télécommunicateurs interurbains qui n'occupent pas une position dominante dans le marché ne sont pas assujettis aux mêmes exigences mais, étant donné qu'ils ont tendance à suivre les prix du marché, leurs tarifs reflètent en général ceux d'AT&T. En outre, la configuration interconnectée du réseau interurbain aux États-Unis diminue, pour un télécommunicateur donné, les répercussions induites par les coûts de la densité réelle du trafic sur tel ou tel tronçon du réseau.

Au Royaume-Uni, par contraste, British Telecom et Mercury fixent leurs prix en se fondant sur les coûts des routes à forte densité. Pour British Telecom, la densité des routes est en rapport direct avec la densité de la population desservie; les tarifs des services sont ainsi moins élevés dans les grands centres de population que pour les routes à faible volume. Dans la plupart des cas, les mêmes routes à forte densité sont également desservies par Mercury. La licence de British Telecom

stipule qu'elle doit desservir toutes les routes; quant à celle de Mercury, elle n'est assortie d'aucune obligation de ce genre et Mercury peut donc choisir d'offrir ses services dans les régions où elle estime que cela peut être économiquement faisable, sur les routes à forte densité, par exemple.

À l'heure actuelle, la tarification du service téléphonique se fonde aussi sur l'opposition heures de pointe – heures creuses. Les expériences du Royaume-Uni et des États-Unis témoignent que, si des rabais continuent d'être consentis en dehors des heures de pointe après l'arrivée de la concurrence dans la prestation du service interurbain, ils ne sont pas aussi intéressants par rapport aux tarifs des heures de pointe. Aux États-Unis, pour la période de 1984 à 1988, les réductions de tarif consenties en soirée et la nuit ont été moins importantes que celles consenties pendant les heures de pointe (le jour). De même, les tarifs "normaux" et "bon marché" de British Telecom ont subi des hausses plus fortes ou des réductions moins fortes que les tarifs des heures de pointe.

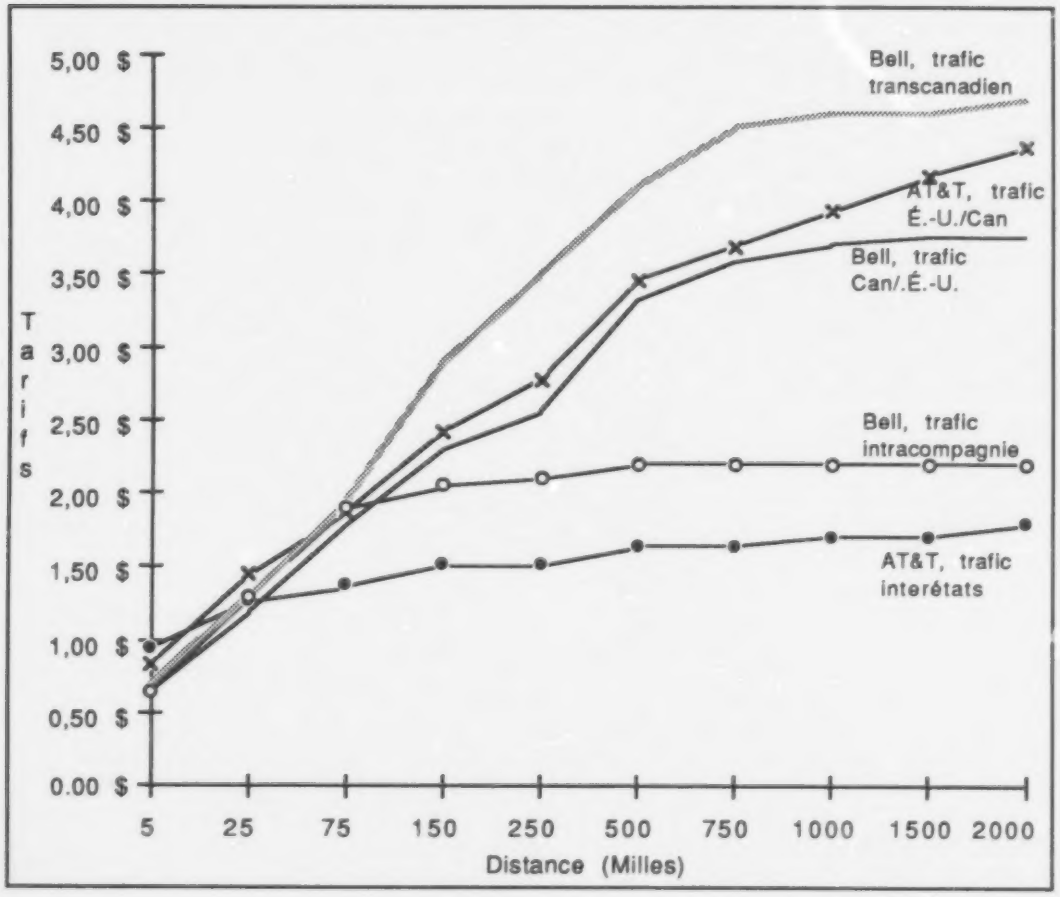
L'introduction de la concurrence dans la prestation du service interurbain a également induit la prolifération des forfaits à tarifs réduits. Aux États-Unis, une multitude de forfaits sont offerts aux abonnés du service d'affaires. Ils sont, entre autres, destinés aux petites et moyennes entreprises qui ne pouvaient jusque-là bénéficier d'aucun rabais. Des forfaits à tarifs réduits sont également proposés aux abonnés du service de résidence à fort degré d'utilisation. En général, ils dépendent du degré de concurrence dans un marché donné, de l'élasticité de la demande par rapport aux prix et des économies de coûts connexes qu'ils entraînent pour les groupes cibles. Les concurrents ont tendance à privilégier en particulier les forfaits offerts avec l'abonnement, dans la mesure où ils permettent de fidéliser les abonnés.

Au Canada, les tarifs interurbains courants sont tributaires de la distance et reflètent à la fois les coûts et la tarification selon la valeur du service. En régime concurrentiel, la composante valeur du service serait probablement appelée à jouer un rôle moins important, la composante coûts étant le déterminant de la fixation des tarifs. L'expérience américaine indique qu'il faut s'attendre à une restructuration des tarifs. Le graphique 5-1 présente une comparaison entre les tarifs courants de Bell Canada et les tarifs équivalents interétats d'AT&T. On peut voir que les tarifs d'AT&T sont beaucoup moins tributaires de la distance que les tarifs transcanadiens et Canada-É.-U. de Bell Canada; cependant, lorsque les distances sont très grandes, les tarifs intracompagnie de Bell Canada deviennent insensibles à la distance.

Aux États-Unis, les structures tarifaires ont subi un changement sensible après l'introduction de la concurrence, en raison de l'instauration des frais fédéraux de lignes d'abonnés (FLA). Nous avons vu qu'en 1983, la FCC a imposé des FLA obligatoires, payables par tous les abonnés du service téléphonique afin d'accéder au réseau interurbain interétats. Ces frais permettent de recouvrer directement auprès des abonnés une partie des coûts non sensibles au trafic jusque-là recouvrée à partir des frais interurbains interétats sensibles à l'utilisation. Au Canada, étant donné que la contribution perçue sur les services publics commutés est habituellement plus élevée que celle qui est perçue sur les services spéciaux comme les services de lignes directes, par exemple, l'instauration de frais

Graphique 5-1

Sensibilité à la distance des tarifs canadiens et américains actuels des appels interurbains automatiques (appel de jour de 5 minutes, en dollars CAN)



* Il s'agit des tarifs de Bell Canada intracompagnie et transcanadiens en vigueur le 1er avril 1988; des tarifs de Bell Canada/É.-U. en vigueur le 1er juillet 1988; des tarifs interétats d'AT&T en vigeur le 1er janvier 1988; des tarifs d'AT&T É.-U./Canada en vigueur le 15 avril 1988. Les tarifs d'AT&T sont donnés en divises canadiennes 1 $ US = 1,25 $ CAN.

SOURCES: Tarifs de Bell Canada et d' AT&T.

payables par les abonnés aurait pour effet de réduire les écarts tarifaires entre ces deux catégories de services.

5.1.1.4 Facteurs affectant la concurrence

La Nordicity Group Ltd., d'Ottawa, a réalisé une étude intitulée "Tendances du marché et autres facteurs non tarifaires susceptibles d'avoir des répercussions sur la concurrence dans le domaine du service téléphonique interurbain", afin d'examiner plusieurs facteurs liés au succès éventuel d'entreprises concurrentielles. La principale conclusion à laquelle est arrivée l'étude, c'est que les télécommunicateurs exploitant leurs propres installations ne pourraient pas pénétrer avec succès le marché du service téléphonique interurbain public au Canada s'ils n'ont pas un avantage au niveau des prix. De façon générale, l'expert-conseil conclut qu'il n'existe aucune combinaison de caractéristiques des services ou d'avantages autres que les prix, susceptible de permettre à des télécommunicateurs exploitant leurs propres installations de faire face à la concurrence, s'ils ne détiennent pas un avantage au niveau des prix. Cependant, il fait remarquer qu'il pourrait être possible aux revendeurs de s'approprier une petite part du marché en offrant des services spécialisés aux abonnés d'affaires, sans consentir de rabais. Dans ce cas, les revendeurs pourraient servir certains créneaux et maintenir leurs coûts bas en louant des installations, plutôt qu'en construisant leurs propres réseaux.

Inversement, pour entrer et survivre dans le marché, du moins pendant la période de mise en marche, il est indispensable que les télécommunicateurs exploitant leurs propres installations disposent d'un avantage au niveau des prix. En se fondant sur les attentes des abonnés, l'expert-conseil conclut qu'il suffirait probablement à un nouveau concurrent de réduire ses prix d'au moins 10 % pour s'approprier une part appréciable du marché, à condition que les contraintes non liées aux prix soient minimes. Cela correspond à ce qui se passe aux États-Unis où il est de plus en plus évident que, si la possibilité d'offrir des services à prix réduits n'avait pas existé, la structure interne des coûts des télécommunicateurs non dominants ne leur aurait peut-être pas permis de pénétrer le marché ou d'élargir leur part du marché.[92]

Les conclusions de l'expert-conseil selon lesquelles il serait essentiel que les concurrents puissent réduire leurs prix afin de pénétrer le marché et survivre, revêtent une importance capitale tant pour les nouveaux entrants éventuels que pour les organismes de réglementation. Pour offrir des rabais, les nouveaux entrants devraient réussir à réduire leurs coûts en augmentant leur efficience et (ou) les organismes de réglementation devraient permettre des rabais de contribution. L'expert-conseil a également constaté que la qualité de l'accès des télécommunicateurs locaux, notamment le nombre de chiffres supplémentaires à composer, représentait le facteur le plus important, en dehors du prix, pour les abonnés potentiels des autres télécommunicateurs. De façon plus précise, si la qualité de l'accès était inférieure à celle que garantissent les compagnies de téléphone, il faudrait, pour attirer de nouveaux concurrents, autoriser ces

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[92] Economics and Technology, Inc., étude commandée par le Groupe de travail.

derniers à consentir des rabais importants sur leurs prix. Si la qualité de l'accès était égale, les rabais deviendraient moins importants pour les concurrents, tandis que la qualité du service et les facteurs autres que les prix le deviendraient davantage.

L'étude réalisée par la Nordicity s'est en outre efforcée de déterminer l'importance des facteurs autres que les prix sur la part du marché et sur la capacité de survie des nouveaux entrants. L'expert-conseil a utilisé plusieurs sources de renseignements primaires et secondaires, notamment un sondage téléphonique auprès des abonnés du service d'affaires, des réunions de groupe organisées dans trois régions du Canada avec des abonnés du service d'affaires, des données provenant d'activités de recherche de marchés et des entrevues réalisées auprès de cinq compagnies de téléphone canadiennes, du CNCP, de fournisseurs américains et d'experts de l'industrie. La méthodologie employée a surtout cherché à identifier et à évaluer l'importance des facteurs autres que les prix pour les abonnés canadiens.

En ce qui concerne la nature générale du SICT/WATS, l'expert-conseil a conclu qu'il n'était pas un produit homogène, ni du point de vue des prix ni de celui des facteurs autres que les prix. Autrement dit, c'est un produit que les fournisseurs peuvent différencier de diverses façons. Pour ce qui est du prix, par exemple, la différenciation peut se faire selon les blocs de durée, l'octroi de rabais ou une tarification en fonction de la distance. Pour ce qui est des facteurs autres que les prix, la différenciation pourrait intervenir au niveau des caractéristiques du produit : renvoi automatique des appels, enregistrement automatique des détails des appels et enregistrement des messages vocaux, par exemple. En outre, la qualité de la transmission et la facilité d'accès des télécommunicateurs (c'est-à-dire le nombre de chiffres à composer), pourraient servir à différencier les services de nouveaux entrants. L'expert-conseil a également constaté que les abonnés seraient sensibles à l'identité du fournisseur de services. Certains abonnés trouveraient plus pratique de ne faire affaire qu'avec un seul fournisseur de services. D'autres estimaient qu'il est plus risqué de demander le SICT/WATS à un nouveau petit revendeur plutôt qu'à une compagnie de téléphone. Cependant, s'il s'agissait de concurrents bien connus, les abonnés ne jugeraient probablement pas plus risqué de faire affaire avec eux. Par conséquent, on ne peut pas considérer le SICT/WATS comme un produit homogène, accessible sous pratiquement la même forme auprès de tous les concurrents; de fait, le choix des abonnés est influencé à la fois par les caractéristiques spécifiques du service et par l'identité du fournisseur.

Le tableau 5-2 indique l'importance relative du facteur prix par rapport aux facteurs autres que les prix pour les abonnés du service d'affaires, telle qu'elle a été déterminée par l'étude, selon les bénéfices et les coûts qu'ils associent à tel ou tel service.[93] Ce tableau révèle, premièrement, que l'avantage le plus important de la concurrence consiste en de meilleurs prix et, deuxièmement, que

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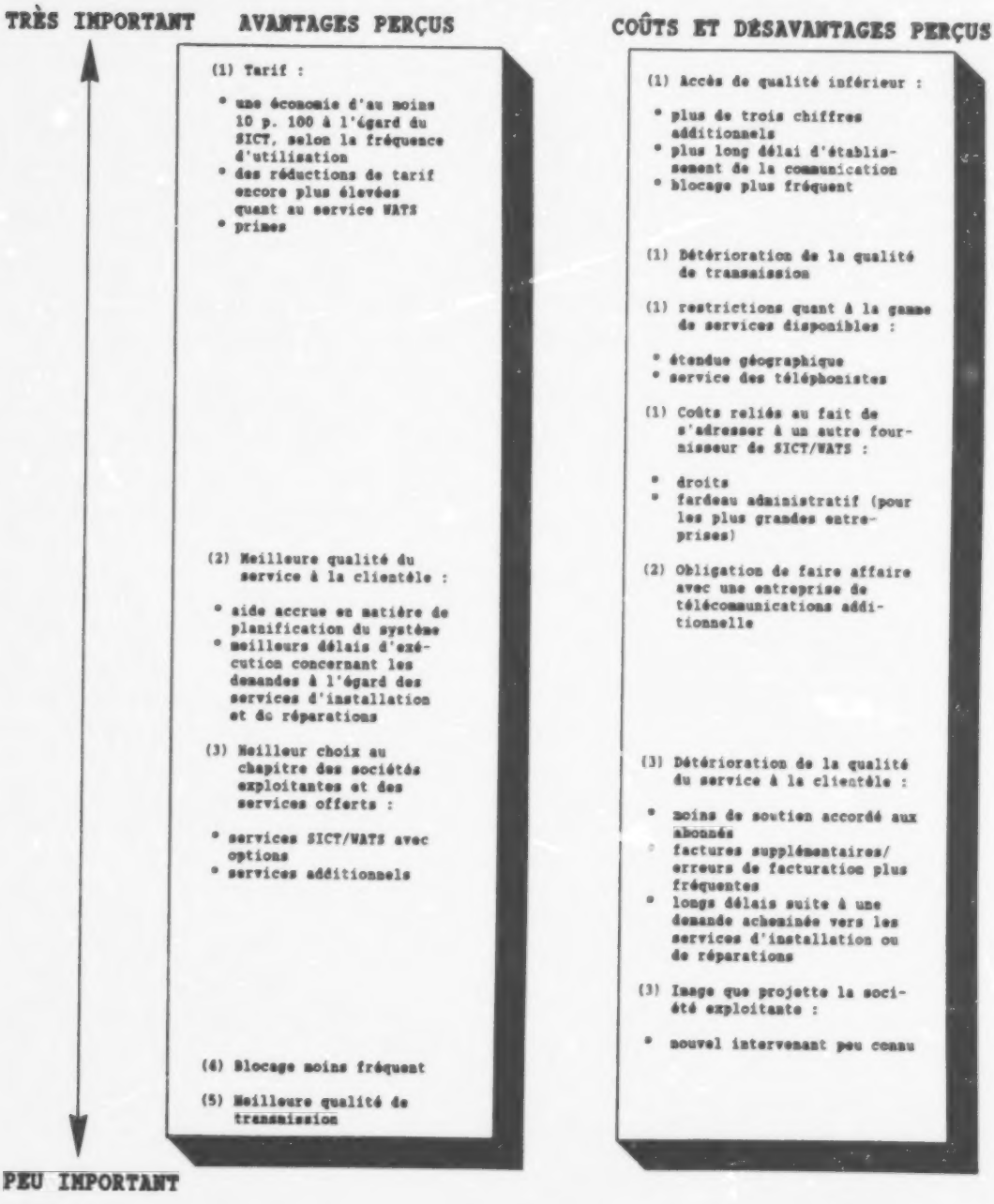
[93] On retrouve un tableau semblable dans Nordicity Group Ltd., étude commandée par le Groupe de travail (tableau 4.2), pour ce qui est des abonnés du service de résidence.

Tableau 5-2

Importance relative des facteurs pour les abonnés du service d'affaires



SOURCE: Nordicity Group Ltd., étude commandée par le Groupe de travail, tableau 4-1.

les avantages autres que les prix ne pèsent pas plus lourd dans la balance que les coûts perçus tel que d'avoir recours à un fournisseur concurrent de l'interurbain. (On est arrivé à la même conclusion pour les abonnés du service de résidence). Les facteurs autres que les prix peuvent être un plus ou un moins, par rapport à l'offre de services d'un concurrent, indépendamment des rabais. Leur importance tient au fait qu'ils permettent aux abonnés de déterminer les mérites comparés de tel ou tel fournisseur et, à ce titre, ils seraient précieux pour les concurrents désireux d'accroître leur part du marché. Comme l'indique le tableau, les facteurs primaires autres que les prix susceptibles de compromettre l'entrée en concurrence dans le service d'affaires sont, entre autres : restrictions de la qualité de l'accès offert par les concurrents (obligation de composer plus de trois chiffres additionnels); qualité de la transmission; restrictions au niveau des caractéristiques du service ou de la couverture géographique; et coûts associés à un changement de fournisseur pour le service interurbain. Quant aux avantages primaires de la concurrence autres que les prix, on cite surtout un plus grand nombre d'options de service, une plus grande qualité du service à la clientèle et un plus grand choix de services et de fournisseurs. Les facteurs autres que les prix sont apparemment plus importants pour les abonnés du service d'affaires que pour ceux du service de résidence. Dans le cas de ces derniers, l'expert-conseil fait d'ailleurs remarquer que si les facteurs autres que les prix sont parfois importants, notamment la qualité du service, le choix des fournisseurs de l'interurbain est essentiellement déterminé par le prix.

5.1.2 Modèle de la réglementation des télécommunicateurs dominants

Dès qu'un marché est ouvert à la concurrence, deux problèmes majeurs surgissent quant au bien-fondé de continuer à appliquer une réglementation basée sur le taux de rendement. D'un côté, il est peu probable que les nouveaux entrants occupent d'emblée une position dominante sur un marché jusque-là monopolistique et qu'ils puissent détenir un certain contrôle sur le marché ou demander des prix supérieurs ou inférieurs à la normale. Par conséquent, on peut avancer qu'il ne servirait à rien de leur appliquer une réglementation traditionnellement réservée aux services publics. D'autre part, dans le cas des télécommunicateurs dominants, leurs activités dans les marchés monopolistiques et concurrentiels, ou encore leur part dominante du marché, pourraient prêter à s'interroger sur les possibilités d'interfinancement, de surtarification et d'activités prédatrices et sur la disponibilité du service.

5.1.2.1 Aperçu général

En matière de réglementation des télécommunicateurs dominants, l'expérience canadienne est plutôt limitée. Pour ce qui est des télécommunicateurs réglementés au niveau fédéral, le CNCP a présenté au CRTC, le 10 septembre 1986, une requête en exemption de certaines exigences réglementaires.[94] À l'appui de sa requête, le CNCP a fait valoir que sa part du marché total des communications était modeste et qu'il n'occupait une position de monopole dans aucun sous-marché. De plus,

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[94] Avis public Télécom CRTC 1986-64 du 24 octobre 1986 intitulé Télécommunications CNCP, Requête en exemption de certaines exigences réglementaires.

un grand nombre de ses concurrents offrent des services concurrentiels non réglementés et le CNCP a ajouté que, comme ses services ne peuvent pas se prêter à l'interfinancement, l'intérêt public ne justifiait pas que lui soient imposées des obligations précises en matière d'établissement du prix de revient.

Le CRTC a pris note des préoccupations exprimées par certains intervenants, notamment Bell Canada et B.C. Tel, selon lesquelles l'application au CNCP de règlements différents de ceux visant les autres télécommunicateurs réglementés au niveau fédéral risquait d'être une source d'injustice. Quoi qu'il en soit, le CRTC a jugé que Bell Canada et B.C. Tel opéraient dans des circonstances substantiellement différentes de celles du CNCP et il a estimé qu'il n'était pas nécessairement contre-indiqué d'appliquer des règlements différents à des télécommunicateurs opérant dans des circonstances différentes.

Le CRTC a conclu que le CNCP n'avait pas la capacité de recourir à un interfinancement important de ses différents services et qu'il devait donc être dispensé d'obligations précises en matière d'établissement du prix de revient.[95] Le CRTC a en outre conclu que le CNCP devait affronter une concurrence suffisamment forte dans tous ses domaines d'activités pour qu'il soit peu probable qu'il puisse augmenter ses prix de façon marquée sans risquer de perdre des clients et que, par conséquent, il n'était pas nécessaire de soumettre à l'approbation de l'organisme de réglementation les conditions d'exploitation, y compris les prix, de la plupart des services du CNCP. La légalité de la décision rendue par le CRTC a été contestée par les parties qui estiment qu'il n'a pas le pouvoir d'exempter le CNCP de l'approbation préalable de ses tarifs.[96]

Le deuxième cas important où le CRTC a été appelé à envisager de détarifer les services réglementés concerne la prestation du service radio cellulaire. Le Conseil a jugé que Cantel, de même que les sociétés affiliées à des compagnies de téléphone réglementées au niveau fédéral offrant des services de radio cellulaire, ne seraient pas tenues de déposer leurs tarifs pour la prestation du service radio cellulaire.[97] Dans le cas des sociétés affiliées à des compagnies de téléphone, le CRTC a décidé qu'il suffisait qu'elles fournissent des garanties convenables que leurs activités de radio cellulaire sont véritablement indépendantes de leurs activités de compagnies de téléphone réglementées et qu'elles ne sont pas interfinancées par ces dernières).

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[95] La décision Télécom CRTC 87-12 intitulée Télécommunications CNCP - Requête en exemption de certaines exigences réglementaires.

[96] Telecommunications Workers' Union c. le Conseil de la radiodiffusion et des télécommunications canadiennes et les Télécommunications CNCP. La cause a été entendue par la Cour d'appel fédérale le 7 septembre 1988 et le prononcé du jugement a alors été remis par la Cour.

[97] Avis public Télécom CRTC 1984-55 du 25 octobre 1984 intitulé Service radio cellulaire.

Suite à cette décision, B.C. Tel a présenté une requête au CRTC dans laquelle elle demandait que ses services facultatifs de radio-appel et de radiotéléphonie mobile terrestre soient exemptés des règlements tarifaires, au même titre que ses services non réglementés de radiotéléphonie cellulaire.[98] B.C. Tel a fait valoir que cette exemption était nécessaire afin qu'elle puisse concurrencer à égalité les autres entreprises non réglementées dans un marché qu'elle ne dominait pas. Elle a également affirmé que ses pratiques de séparation comptable permettaient au CRTC de constater l'absence d'interfinancement entre ses activités réglementées et les autres.

Pour justifier son rejet de la requête de B.C. Tel, le CRTC a déclaré que la méthode proposée par B.C. Tel ne suffisait peut-être pas à garantir l'impossi-bilité d'interfinancement.[99] De plus, il craignait qu'elle ne suffise pas à garantir que B.C. Tel, en tant que fournisseur de services de radio-appel et de radiotéléphonie mobile, ne jouirait pas d'une préférence ou d'un avantage concurrentiel indu. C'est une possibilité qu'il fallait envisager, compte tenu de la position monopolistique de B.C. Tel dans un marché de services dont la caractéristique est d'offrir l'accès à des services radiotéléphoniques.

La réglementation adoptée par la FCC à l'égard des télécommunicateurs concur-rentiels est également instructive pour comprendre l'opposition dominant-non dominant que l'on trouve dans la réglementation des télécommunicateurs.[100] La FCC est partie du principe que l'on peut se fier aux forces du marché pour protéger le public contre des tarifs excessifs ou une discrimination injuste, lorsque les fournisseurs de services n'exercent pas trop de contrôle sur le marché (c'est-à-dire ne sont pas capables de fixer et de maintenir des tarifs sensiblement supérieurs ou inférieurs aux prix du marché).

En même temps, la FCC a décidé d'appliquer une réglementation beaucoup plus contraignante à l'endroit des télécommunicateurs dominants. Sont considérés comme télécommunicateurs dominants les fournisseurs capables d'exercer un certain contrôle sur le marché (c'est-à-dire de fixer les prix de façon à enregistrer des profits excessifs, ou, au contraire, de fixer des prix trop bas ou discriminatoires). On estime que la possibilité de fixer des prix discriminatoires ou trop bas est liée, entre autres, à la capacité de recouvrer des pertes sur les revenus provenant des services monopolistiques (possibilité d'interfinancement à partir des services locaux).

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[98] British Columbia Telephone Co., "Re: B.C. Tel's Portable Communications Division", Mémoire en réponse à l'avis public Télécom CRTC 1984-55 du 25 juin 1985.

[99] Décision CRTC 85-15 du 7 août 1985 intitulée Compagnie de téléphone de la Colombie-Britannique - Division des communications portatives.

[100] FCC, CC Docket 79-252, "In the Matter of Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorizations Therefore", Notice of Inquiry and Proposed Rulemaking (the Competitive Carrier Rulemaking), 77 FCC 2d 308 (1979).

La démarche adoptée par la FCC à l'égard des télécommunicateurs concurrentiels a eu pour effet de simplifier les règlements pour tous les concurrents opérant dans le marché intérieur, tant les entreprises exploitant leurs propres installations que les revendeurs, et de les dispenser de faire approuver leurs tarifs (le fardeau de la preuve incombe aux plaignants, et c'est à eux de justifier que tel ou tel cas exige une vérification réglementaire). Pratiquement tous ces concurrents, y compris les télécommunicateurs interurbains (sauf AT&T) et les fournisseurs intérieurs de services par satellite, sont actuellement exemptés de la réglementation tarifaire. AT&T, parce qu'elle continue de dominer le marché interurbain, et les CEB, parce qu'elles détiennent le monopole des services locaux, continuent d'être assujetties à une réglementation complète fondée sur le taux de rendement.

5.1.2.2 Entrée, sortie et qualité du service

En dehors des considérations relatives à la réglementation tarifaire et à la limitation du taux de rendement autorisé, il faut également parler des critères d'entrée et de sortie, de l'obligation de fournir le service et de la qualité du service. Nous traiterons aussi de l'obligation de fournir le service par rapport aux objectifs de l'universalité, mais il faut remarquer que cette obligation peut parfois restreindre la capacité d'expansion des télécommunicateurs dominants dans le marché interurbain, ou leur capacité d'en sortir. Pour atteindre certains objectifs relatifs à des politiques de fixation de prix non discrimatoires, il peut falloir exiger que les télécommunicateurs dominants continuent à appliquer des tarifs moyens ou des tarifs moyens de route. Si les nouveaux concurrents n'étaient pas assujettis aux mêmes contraintes, ils bénéficieraient d'un avantage concurrentiel, en particulier s'ils pouvaient choisir de ne desservir que certaines routes. Cela risquerait d'exercer des pressions en faveur de la suppression des tarifs moyens et, par conséquent, provoquer la hausse des prix sur les routes exemptes de concurrence. En outre, tous les concurrents ne seraient pas nécessairement assujettis aux mêmes critères de sortie, même s'ils étaient tous tenus par ailleurs d'offrir le service aux mêmes conditions, dans une région ou sur une route qu'ils desservent.

Les conditions d'entrée, toutefois, sont plus problématiques, dans la mesure où plusieurs facteurs entrent en jeu. Par exemple, comme nous l'avons déjà vu, une des conditions importantes de l'entrée est liée à la mesure dans laquelle les concurrents sont tenus de verser des frais de contribution (par rapport aux télé-communicateurs en place). Parmi les autres facteurs dignes de considération, notons en particulier : a) l'obligation de répondre à des normes minimales de qualité de service (même si les exigences pour les concurrents ne seraient pas nécessairement les mêmes que pour le télécommunicateur dominant); b) la prestation de services aux mêmes conditions à tous dans le territoire desservi; et c) des prix uniformes. Au lieu d'imposer une réglementation à grande échelle à tous les nouveaux entrants, on pourrait envisager de limiter l'entrée par un système de licences stipulant leurs conditions d'exploitation. On pourrait également prévoir un processus de renouvellement des licences, qui serait une sorte de garantie de respect des conditions d'exploitation établies.

Tant que la concurrence ne serait pas trop forte, les organismes de réglementation pourraient continuer d'imposer aux télécommunicateurs dominants certaines normes de qualité pour les services interurbains, tout en réglementant leurs tarifs. Mais, au fur et à mesure que le marché deviendrait plus compétitif, la qualité du service serait l'un des facteurs déterminants pour attirer les clients. Cependant, comme ce ne sont pas toutes les régions géographiques qui attireraient des concurrents, il pourrait s'avérer nécessaire d'exercer un contrôle constant sur les activités du télécommunicateur dominant.

5.1.2.3 Répercussions de la concurrence sur la prestation du service

Un grand nombre des répercussions de la concurrence dans la prestation du service interurbain dépendent, dans une large mesure, de la structure réglementaire qui accompagne son entrée. Les répercussions sur la prestation du service, en particulier dans les régions rurales et éloignées, méritent d'être discutées.

Comme nous l'avons vu au chapitre 3, la politique fédérale et les décisions prises en matière de réglementation aux États-Unis, notamment par les tribunaux, ont surtout favorisé la concurrence dans le service interurbain sur les routes intervilles, tout en maintenant un monopole totalement réglementé au niveau des services locaux. Plusieurs facteurs propres au contexte de la concurrence aux États-Unis ont permis d'atténuer les graves effets qu'elle aurait pu avoir sur la prestation du service. Premièrement, la FCC a imposé des conditions précises à AT&T, le télécommunicateur dominant : AT&T devait être le fournisseur de services de dernier recours, maintenir des tarifs moyens pour tous ses services et répercuter sur ses abonnés les économies de coûts résultant du transfert des coûts non sensibles au trafic jusque-là imputables aux services interurbains interétats. Deuxièmement, même si des coûts non périodiques supplémentaires ont été engagés pour permettre un accès égal, dans l'ensemble les coûts des télécommunicateurs locaux n'ont pas augmenté de façon sensible, principalement parce que la politique adoptée par les États-Unis en matière de réglementation a visé à les protéger contre le manque à gagner pouvant résulter du changement de régime. Quand la concurrence a été introduite au niveau interétats, les revenus interétats jusque-là imputés aux compagnies de téléphone locales en vertu d'ententes de partage et de répartition des revenus ont, dans l'ensemble, continué de leur être imputés par le truchement du mécanisme des frais d'accès fédéraux. Troisièmement, la structure du marché des LATA et l'obligation pour les compagnies de téléphone locales de fournir un accès égal dans chaque LATA ont permis non seulement aux abonnés des centres à forte densité de population mais également aux abonnés résidant dans des zones urbaines et rurales de bénéficier des avantages de la concurrence interétats. Quatrièmement, par l'intermédiaire d'un "Fonds de service universel", la FCC a conclu des ententes spéciales visant à indemniser les télécommunicateurs locaux qui desservent des régions où les coûts sont nettement plus élevés que la moyenne. Cinquièmement, la FCC a mis en place divers programmes de subvention des services de la "ligne vitale". Finalement, les états ont également adopté certaines des approches susmen-tionnées.

Du point de vue des abonnés, la restructuration de l'industrie aux États-Unis a eu pour effet de faire passer les besoins en revenus des services interurbains aux frais de ligne d'abonnés. Résultat, même dans les régions où il existe très peu de

concurrence au niveau du SICT/WATS, sinon aucune, les abonnés ont fini par payer des tarifs mensuels plus élevés, mais ils ont eu, par contre, la possibilité de bénéficier d'une baisse des tarifs interétats et, depuis peu, intraétat.

Dans l'ensemble, les États-Unis semblent avoir conçu un système en vertu duquel les abonnés peuvent bénéficier de la concurrence dans le service interurbain tout en limitant les répercussions négatives sur la prestation du service téléphonique local. Bien que l'on ignore le rôle qu'ont joué la création du Fonds de service universel et l'adoption de programmes de subvention des services de "la ligne vitale", le taux de pénétration du téléphone a augmenté au cours des dernières années.

La division du territoire en LATA ainsi que la disposition voulant que les concurrents n'aient qu'à s'interconnecter à un point dans une LATA donnée pour avoir accès à tous les abonnés de cette LATA ont permis d'assurer le maintien des services dans les régions rurales et éloignées. Pour assurer de façon efficace la prestation du service et l'extension du réseau dans les régions rurales et éloignées, il est essentiel de tenir compte de l'emplacement des points d'interconnexion de même que de la façon dont les télécommunicateurs interurbains indemnisent les télécommunicateurs locaux, en contrepartie de l'acheminement de leur trafic interurbain en provenance et à destination de ces points. La composante sensible au trafic des frais d'accès des télécommunicateurs renferme une composante distance qui ne correspond pas tout à fait à la distance qui existe entre le point de départ ou d'arrivée d'un appel et le point d'occupation d'un concurrent. Cela encourage les télécommunicateurs interurbains à établir le minimum de points d'occupation dans chaque LATA et à raccorder leurs abonnés au réseau en utilisant les installations de la compagnie de téléphone locale, au lieu de lignes directes qui leur permettraient d'éviter le réseau de la compagnie de téléphone locale. Cela les encourage également à offrir leurs services au même prix à tous les abonnés d'une LATA. La FCC a obligé AT&T à offrir et à maintenir des tarifs moyens, et les autres télécommunicateurs interurbains ont tendance à en faire autant.

Comme nous l'avons vu, de nombreux états ont adopté des structures similaires aux modèles des LATA pour la concurrence dans le service interurbain au sein de leurs juridictions. Dans des états comme l'Illinois, cependant, où la concurrence du SICT/WATS est assujettie à des contraintes moins strictes qu'ailleurs, les abonnés urbains bénéficient d'un plus grand choix de services et de tarifs intraétat moins élevés que ceux des banlieues ou des régions rurales. Les abonnés du service d'affaires, notamment les plus importants, ont connu une croissance substantielle des genres de service et des options de prix. Illinois Bell, la principale compagnie de téléphone de l'État, a restructuré ses services existants de manière à inclure des éléments de prix concurrentiels. Elle a également introduit de nouveaux services de lignes privées numériques, ajouté à ses services centrex des perfectionnements similaires aux options disponibles avec les systèmes de central privé et élargi sa gamme de services interurbains à prix de gros. Les abonnés du service de résidence en Illinois ont connu moins de changements. D'une part, tous les abonnés du service de résidence peuvent choisir parmi plusieurs fournisseurs de services interurbains interLATA, d'autre part, les abonnés du service de résidence dans la zone de desserte du marché de Chicago

(zone équivalant à une LATA telle que définie par l'Illinois Commerce Commission) ont bénéficié d'importantes réductions tarifaires. Toutefois, les tarifs inter-urbains intraLATA d'Illinois Bell pour les LATA hors-Chicago n'ont pas changé depuis le démantèlement de sorte que les abonnés des centres moins urbains de l'état paient davantage pour les appels interurbains que ceux qui résident dans l'agglomération de Chicago.

De même, au Royaume-Uni, British Telecom est le fournisseur de service de dernier recours et elle est tenue d'appliquer des tarifs moyens, même s'il n'existe pas de structure équivalente à celle des LATA. Quant à Mercury, elle est autorisée à offrir des services concurrentiels dans les marchés locaux et interurbains de son choix, sans être tenue de desservir les régions moins rentables. Les gros abonnés des centres urbains bénéficient donc de tarifs concurrentiels auxquels n'ont pas accès les abonnés des petites villes et des régions rurales, en dehors des quelque 70 zones d'accès que dessert Mercury. British Telecom conserve la responsabilité de fournir le service interurbain et local à tous les abonnés.

5.1.3 Formules de rechange pour la réglementation des télécommunicateurs dominants

Lorsque la réglementation du taux de rendement du télécommunicateur dominant intervient dans un contexte concurrentiel, des questions se posent, notamment la nécessité de garantir que l'entreprise réglementée n'interfinance pas les activités concurrentielles à même les revenus des services monopolistiques. En outre, si la réglementation tarifaire continue de s'appliquer dans un régime concurrentiel, la capacité de l'entreprise à réagir aux forces du marché peut être gravement limitée. Ce problème serait aggravé si les concurrents étaient en mesure d'utiliser le processus de réglementation pour entraver la réaction du télécommunicateur dominant.

Plusieurs solutions ont été proposées pour tenter de corriger les imperfections perçues dans le cadre actuel de réglementation, dont certaines peuvent être liées aux questions susmentionnées : le plafonnement des prix, le contrat social et la réglementation fondée sur l'incitation en sont trois que l'on étudie ci-après. Chacune d'elles vise essentiellement à accorder suffisamment de souplesse à l'entreprise réglementée pour lui permettre d'accroître sa rentabilité, les consommateurs ayant par ailleurs tout à gagner d'une capacité de réponse accrue et de prix moins élevés. Une analyse complète des avantages et des inconvénients de chacune des solutions s'impose avant de pouvoir songer à les utiliser dans un contexte canadien.

La réglementation par le plafonnement des prix vise essentiellement à limiter l'ampleur des hausses de prix des services, compte tenu de l'inflation et des gains de productivité prévus. L'entreprise est autorisée à garder une partie ou la totalité de ses profits, à condition qu'elle respecte les contraintes de la tarification. Dans le cas d'un contrat social, la compagnie de téléphone serait tenue de limiter les augmentations de ses tarifs locaux en contrepartie d'une moins grande réglementation d'autres services, interurbains notamment. Quant à la réglementation fondée sur l'incitation, elle vise à autoriser l'entreprise réglementée à garder une certaine partie de ses profits "supplémentaires", à

condition qu'ils proviennent d'activités souhaitables sur le plan social ou économique. Par contre, elle ne pourra le faire si elle recourt à des moyens indésirables d'accroître ses profits.

5.1.4 Modèle d'un marché totalement réglementé

Comme mécanisme de remplacement de la déréglementation totale ou de la réglementation des télécommunicateurs dominants, on pourrait envisager la réglementation totale de tous les participants présents dans un marché. Toutefois, les données relatives à l'expérience américaine suggèrent que, même si ce mécanisme a été adopté dans certains états pour les marchés interurbains intraétat, il s'agit davantage d'une exception que de la règle. Ce mécanisme a comme avantage possible de réduire au minimum les variations de tarifs. De plus, le contrôle de réglementation peut s'avérer nécessaire tant pour garantir que la concurrence soit équitable que pour se protéger des effets négatifs possibles de la concurrence (par ex., les répercussions sur la qualité du service dans les régions rurales). Du côté négatif, les coûts de la réglementation pourraient augmenter (pour les entrants comme pour les organismes de réglementation), et les incitatifs renforcés à réduire les coûts et à innover risqueraient de ne pas se matérialiser dans la même mesure. Une exigence voulant que tous les tarifs soient assujettis à un préavis et à un préexamen aurait tendance à inhiber la capacité de répondre rapidement aux conditions changeantes du marché, y compris les changements dans les préférences de la clientèle et la réponse aux besoins des nouveaux abonnés.

Si l'on voulait réglementer le taux de rendement de l'ensemble des participants présents dans un marché, il faudrait prévoir un système de séparation structurelle ou comptable des services fournis par des entreprises ayant d'autres secteurs d'activités (non réglementés). Si l'on adoptait la séparation comptable, il faudrait élaborer et appliquer une méthode distincte pour chaque nouvel entrant, ce qui augmenterait les coûts de ce dernier, tout comme ceux de l'organisme de réglementation. Il faudrait également assurer une surveillance constante sur le plan de la réglementation. Par ailleurs, la séparation structurelle risquerait d'imposer des coûts initiaux élevés à certains entrants et pourrait réduire leurs économies de portée sur les services qui les ont précisément induits à pénétrer le marché.

5.2 Concurrence et universalité d'un service téléphonique abordable

Le débat sur l'ouverture à la concurrence du service téléphonique interurbain public soulève une question majeure, à savoir, celle de son impact potentiel sur le maintien de l'universalité d'un service téléphonique abordable. En effet, le service interurbain contribue, à l'heure actuelle, dans une grande mesure, à recouvrer les coûts d'accès des abonnés, coûts qui autrement devraient être compensés par une augmentation des tarifs locaux. Les analyses d'établissement du prix de revient de Bell Canada et B.C. Tel montrent que les services locaux et les services interurbains génèrent des revenus supérieurs aux dépenses connexes, mais qu'il n'en va pas de même de la catégorie des coûts d'accès. En fait, la grande partie du manque à gagner dans le recouvrement des coûts d'accès est absorbée par le surplus des revenus des services interurbains monopolistiques. Dans la mesure où la concurrence amènerait une réduction des revenus nets des services

interurbains des compagnies de téléphone, il pourrait s'ensuivre des majorations des tarifs locaux.[101] Même si une hausse des tarifs locaux ne mettrait pas nécessairement en danger l'universalité, plusieurs mécanismes sont envisagés ci-dessous dans le but soit de freiner toute augmentation potentielle des tarifs locaux, soit d'en amortir l'impact.

5.2.1 Frais de contribution des télécommunicateurs

Pour assurer le maintien de l'universalité du service, l'un des mécanismes envisagés consisterait à faire porter à tous les concurrents présents dans le marché interurbain le niveau actuel de contribution des services interurbains. Les principales raisons d'imposer des frais de contribution aux télécommunicateurs sont, entre autres :

(1) de faire en sorte que les revenus continuent de servir à recouvrer les coûts communs et les coûts d'accès et, ainsi, limitent les répercussions sur les tarifs locaux;

(2) d'éviter l'entrée non économique en exigeant que les concurrents contribuent à recouvrer les coûts d'accès des abonnés aux mêmes conditions que les compagnies de téléphone, réduisant ainsi les possibilités de concurrence dans la prestation de services dont les prix sont artificiellement élevés afin de générer les revenus nécessaires au financement d'autres services; et

(3) de permettre un rééquilibrage méthodique et contrôlé des tarifs, dans les cas où la concurrence a été autorisée avant que les tarifs n'aient été alignés sur les coûts.

Si leur montant est trop élevé, les paiements de contribution peuvent compromettre les possibilités de concurrence, dans la mesure où ils représentent un facteur de coût important sur lequel les concurrents n'ont aucun contrôle. Ces paiements sont sans rapport avec les ressources réellement nécessaires à la fourniture d'un service, mais ils constituent plutôt un paiement versé aux entreprises qui dispensent un service téléphonique local comme substitut des contributions du trafic interurbain qui n'aurait été anciennement acheminé que par la compagnie de téléphone.

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[101] Par exemple, en 1986, Bell Canada a rapporté un manque à gagner dans la catégorie accès de 2 232,1 millions et un surplus de 1 811,1 millions de dollars dans la catégorie des services interurbains monopolistiques. B.C. Tel a rapporté un manque à gagner semblable de 447,5 millions de dollars dans la catégorie accès et un surplus de 441,7 millions de dollars dans la catégorie des services interurbains monopolistiques. Le surplus dans la catégorie des services locaux monopolistiques totalisait 528 millions de dollars pour Bell Canada et 48 millions pour B.C. Tel. Voir à la note 91, résultats de la Phase III.

Il est probable que l'établissement du niveau approprié de contribution soulèveraient plusieurs problèmes, notamment celui de déterminer : a) le montant de la contribution requise des services interurbains pour financer les coûts d'accès et communs; b) les services devant être assujettis à contribution; et c) le niveau approprié des rabais consentis, le cas échéant, aux concurrents sur leur contribution.

Entre autres difficultés, l'absence d'une méthodologie universellement acceptée d'établissement du prix de revient des services pose un problème au niveau du calcul et de l'attribution des contributions. Malgré cela, si les revenus des services interurbains des compagnies de téléphone diminuaient sans des augmentations proportionnelles de la productivité ou des réductions de coûts au sein de la compagnie de téléphone dans l'ensemble, suite à la concurrence dans le service interurbain, ou sans des réductions des dépenses suite à une baisse de la demande, le manque à gagner qui en résulterait devrait être compensé d'une autre façon (puisque toute augmentation des tarifs interurbains ne pourrait que rendre le service encore plus vulnérable).

Étant donné que ce manque à gagner est assujetti à plusieurs facteurs, notamment la pénétration du marché par les concurrents interurbains et la stimulation des revenus entraînée par la baisse des prix et les économies de dépenses, il serait peut-être nécessaire de l'ajuster périodiquement afin que l'érosion des revenus prévue corresponde aux pertes réelles. (Le chapitre 6 présente les estimations du manque à gagner sur les contributions, pour différents scénarios concurrentiels. Dans ce cas-ci, le montant de la contribution requise est estimé à partir des procédures de partage des revenus que les compagnies de téléphone utilisent).

Une fois que l'on a arrêté le niveau absolu des paiements de contribution à percevoir des télécommunicateurs interurbains, il resterait à déterminer les genres de services visés et la part appropriée devant être attribuée à chaque concurrent. Pour ce qui est des services visés, il est opportun de tenir compte des considérations suivantes :

(1) À l'heure actuelle, la contribution la plus importante vient du service téléphonique interurbain public. Par conséquent, tout service susceptible d'éroder cette contribution pourrait être envisagé.

(2) Les services de lignes directes interconnectés sont fournis par l'intermédiaire du réseau local public commuté et peuvent être utilisés, soit pour fournir le SICT, soit comme option de rechange du SICT/WATS.

(3) Les services de lignes directes non interconnectés n'ont pas besoin d'accéder au réseau local commuté, mais ils pourraient être reconfigurés de façon à ce que les abonnés locaux y soient raccordés par le truchement de raccordements PBX au central local.

(4) Les revendeurs qui fournissent le service téléphonique interurbain utilisent des installations (comme les lignes directes) dont le niveau de contribution est inférieur à celui des services (SICT/WATS) auxquels ils font concurrence.

Si l'on envisage de percevoir une contribution des services de remplacement du SICT/WATS, il peut s'avérer difficile de définir ce que constitue un service de remplacement. Par exemple, le service hors circonscription peut servir de remplacement au SICT/WATS pour les abonnés qui effectuent et reçoivent un nombre suffisant d'appels à partir d'un central local donné. Pour l'instant, le niveau de contribution de ce service est inférieur à celui du SICT/WATS. D'autres services de lignes directes interconnectés permettent d'acheminer le trafic interurbain commuté et peuvent donc être également considérés comme des services de remplacement du SICT/WATS. Quant à lui, le WATS est essentiellement un SICT à rabais; la seule caractéristique spécifique du WATS est sa ligne d'accès locale consacrée à l'abonné. En dernier lieu, les services spécialisés de lignes directes eux-mêmes, du moins pour ce qui est du trafic vocal, peuvent être considérés comme des services de remplacement, dans la mesure où, s'ils n'existaient pas, le trafic devrait emprunter le réseau public commuté.

Si le montant des contributions était calculé à partir de tous les services qui utilisent le réseau local commuté, il faudrait peut-être augmenter le prix des services de lignes directes interconnectés, afin que les niveaux de contribution associés à ces services puissent se comparer à ceux qui sont associés à d'autres services interurbains. De telles hausses de prix auraient indéniablement un effet sur la rentabilité de ces services. En outre, les majorations des tarifs des services de lignes directes interconnectés par rapport à ceux du SICT/WATS auraient également pour effet de réduire les marges de profit sur la revente.

Si l'on décidait d'exiger une contribution plus élevée des services de lignes directes interconnectés, il faudrait sans doute également envisager d'augmenter le niveau de contribution des services de lignes directes non interconnectés, puisque le trafic d'un point à un autre pourrait être réacheminé vers le réseau local commuté, par l'intermédiaire d'un PBX.

En plus des considérations précitées, l'organisme de réglementation doit établir le niveau de contribution que les concurrents devront payer. À cet égard, il est important de déterminer si les frais de contribution devraient être équivalents pour tous ou si, dans certains cas, des rabais pour les concurrents pourraient être consentis. Comme nous l'avons vu dans la discussion consacrée aux prix par rapport aux facteurs autres que les prix (section 5.1.1.4), il faut prévoir qu'au moins pendant la période de mise en marche, les concurrents devront bénéficier de prix avantageux pour entrer et survivre dans le marché. Ces prix avantageux pourraient résulter de frais d'accès des télécommunicateurs réduits pour les concurrents. L'octroi d'un rabais sur les contributions payables est assujetti à l'existence de certains désavantages de marché, notamment : a) les disparités de couverture géographique si la concurrence n'est pas autorisée à l'échelle du Canada; b) les disparités de qualité des installations d'interconnexion; et c) la position jusque-là dominante des compagnies de téléphone, liée aux conditions de monopole existant auparavant. Comme nous l'avons déjà vu (section 5.1.1), cependant, le marché est favorable au principe de l'égalité d'accès qui, pleinement appliqué, supprimerait la raison d'être de rabais consentis pour cause de qualité d'accès inférieure (par ex., la composition en deux temps). Mais, s'ils accordent des rabais sur les frais d'accès des télécommunicateurs, les organismes de réglementation doivent être conscients du fait qu'un manque à gagner sur les

contributions qui n'est pas recouvert devra, en dernière analyse, être financé par d'autres services.

Il existe trois mécanismes possibles de recouvrement d'un manque à gagner sur les contributions payables par les concurrents. Il en est question ci-dessous.

(1) Frais mensuels fixes par installation d'interconnexion

Cette méthode permettrait d'appliquer des frais mensuels fixes pour chaque ligne d'accès assurant une connexion entre le central d'une compagnie de téléphone et le point d'occupation du concurrent. On peut estimer le montant de ces frais fixes en divisant la contribution de la compagnie de téléphone par le nombre de circuits de connexion interurbains. Dans le cadre de l'instance du CRTC portant sur la concurrence intercirconscription, par exemple, Bell Canada a estimé à 1 200 $ le montant de sa contribution par ligne. B.C. Tel, pour sa part, l'estimait à 1 500 $, chiffre auquel elle est arrivée en multipliant 9 000 minutes d'utilisation (estimation de la FCC) par un taux de contribution de 0,33 $ par minute, puis en divisant par 2 en reconnaissance du fait que tous les appels nécessitent l'existence d'une installation d'interconnexion à chaque extrémité.[102]

Un système de frais mensuels fixes éliminerait la nécessité de recueillir des données d'utilisation pour chaque installation d'interconnexion. Toutefois, il faudrait quand même établir une hypothèse sur le nombre de minutes d'utilisation par ligne, afin de dériver le montant approximatif de la contribution. Étant donné que le trafic par ligne des concurrents peut varier avec le temps selon le type de service, selon le concurrent et (ou) selon la maturité de celui-ci, le caractère juste et raisonnable de ce genre de mécanisme de contribution pourrait être contesté.

(2) Frais par minute

Ce mécanisme consisterait à appliquer des frais par minute, selon le volume réel du trafic acheminé par un concurrent. Il exigerait de mettre au point une méthode fiable de mesure du trafic et d'en arriver à un chiffre acceptable pour ce qui est de la contribution par minute, valeur implicitement intégrée aux tarifs des compagnies de téléphone. Par exemple, lors de la récente instance qui a abouti à une réduction de 20 % de ses tarifs applicables au

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[102] Avis public Télécom CRTC 1984-6 du 11 janvier 1984 intitulé Concurrence intercirconscription et questions connexes. Bell Canada, "Dossier de pièces justificatives", avril 1984; Compagnie de téléphone de la Colombie-Britannique, "Dossier de pièces justificatives," 30 avril 1984.

SICT intracompagnie, Bell Canada a estimé que la contribution du SICT après cette réduction est passée à 0,23 $ par minute, au lieu de 0,30 $.[103]

Qu'il s'agisse de frais fixes ou de frais par minute, ces deux mécanismes reposent sur l'utilisation de l'accès commuté pour le trafic de départ comme d'arrivée. Afin d'éviter les frais de contribution, les concurrents seraient incités à utiliser les lignes d'accès spécialisées des télécommunicateurs, en particulier pour leurs abonnés à fort volume d'utilisation. Si la contribution est également calculée en fonction de l'utilisation des installations spécialisées des télécommunicateurs, alors les abonnés de lignes directes pourraient songer à construire leurs propres installations.

Comme on l'a présenté ci-dessus, les frais de contribution par minute seraient appliqués uniformément à toutes les minutes d'utilisation générées par le concurrent. Des variantes à cette formule quelque peu simplifiée pourraient se révéler nécessaires, par exemple :

- un écart d'utilisation d'arrivée c. départ. L'utilisation de départ pourrait être tarifée à un taux inférieur à celui de l'utilisation d'arrivée comme moyen de décourager l'évitement local au point où un abonné pourrait concentrer les appels;

- des rabais de frais de contribution en fonction de la période de la journée, pour tenir compte du fait que les tarifs à rabais de soir et de nuit entraînent des paiements de contribution plus faibles par les compagnies de téléphone;

- le plafonnement des prix pour limiter les frais de contribution qui pourraient être perçus de toute ligne d'accès simple. On tiendrait ainsi compte du fait que les abonnés à fort volume pourraient contribuer de façon non ordonnée à recouvrer les coûts non sensibles au trafic;

- le paiement d'un certain pourcentage d'un taux moyen particulier d'une compagnie plutôt qu'un tarif fixe par minute. On tiendrait ainsi compte du fait qu'un tarif fixe pourrait faire en sorte que les appels de courte distance rapportent peu ou pas du tout au concurrent, tandis que les appels de longue distance apporteraient des contributions disproportionnellement petites. (Cette méthode de paiement des frais d'accès a été admise dans la modélisation financière débattue au chapitre 6.)

- l'établissement de frais de contribution qui varient en fonction de la

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[103] Bell Canada - Besoins en revenus pour 1988, Questions de rééquilibrage des tarifs et questions de partage des revenus; Compagnie de téléphone de la Colombie-Britannique - Révisions au barème tarifaire transcanadien et questions de partage des revenus, audience publique CRTC, tenue à Hull (Québec), transcription des délibérations, vol. 12, 18 novembre 1987, Allan Walter (témoin), p. 2399.

le service interurbain, ou encore, le dédommagement des compagnies de téléphone pour de fortes pertes de contribution par un fonds d'aide pour des coûts élevés.

3) Pourcentage des revenus

Les paiements de contribution seraient un pourcentage des revenus totaux des concurrents. Cette formule éviterait d'avoir à mesurer le nombre de minutes d'utilisation et supprimerait l'incitation à éviter l'accès local commuté. Contrairement aux deux autres formules, elle reconnaît aussi les différences dans les tarifs d'heures de pointe et d'heures creuses. Cependant, il faudrait peut-être exiger que les concurrents soumettent leurs prévisions de revenus à l'organisme de réglementation compétent, afin qu'elles fassent l'objet d'une vérification. Cela pourrait compliquer la réglementation, dans les cas où les concurrents offrent une gamme de services qu'il faudrait ventiler pour déterminer la contribution imputable à chacun.

La gestion de ces autres mécanismes de recouvrement des contributions soulève un certain nombre de questions générales :

(1) Les mécanismes de recouvrement des contributions seraient d'autant plus complexes à gérer au fur et à mesure que le nombre de concurrents, notamment les revendeurs, augmenterait. Si l'on adoptait la formule des frais fixes, par exemple, il faudrait peut-être envisager des tarifs de contribution différents selon les concurrents, dans la mesure où ils n'ont pas tous le même volume de trafic par installation d'interconnexion.

(2) Il faudrait peut-être également envisager d'appliquer des tarifs de contribution différents selon la route desservie. Une contribution moyenne ne tiendrait pas compte des niveaux de contribution plus élevés (compris dans les tarifs des compagnies de téléphone) des routes moins coûteuses qui sont parfois aussi les plus lucratives.

(3) Si le nombre d'entrants était élevé, et surtout s'ils n'étaient pas assujettis à la réglementation, on pourrait prévoir un phénomène d'évitement du réseau local et, par conséquent, des contributions, certains entrants pouvant se déclarer en faillite ou produire des rapports inexacts.

(4) La multiplicité des entrants risquerait de rendre plus difficile l'établissement de frais de contribution susceptibles de limiter à un montant fixe les répercussions de la concurrence sur les tarifs locaux.

Si l'on cherche à évaluer les frais de contribution des télécommunicateurs, il est important de noter qu'en dernière analyse, c'est sur leurs abonnés qu'ils répercuteront le coût de ces frais. Cela limiterait d'autant les réductions que les concurrents seraient capables d'offrir sur les tarifs interurbains. En réalité, les réductions des tarifs interurbains pourraient n'être qu'une indication de la mesure dans laquelle la concurrence peut entraîner une réduction des coûts de revient du service (à l'exclusion des frais d'accès des télécommunicateurs). Si des frais

d'accès des télécommunicateurs étaient établis pour compenser complètement la baisse des revenus nets des services interurbains résultant de la concurrence, il est peu probable que les tarifs interurbains baisseraient.

Finalement, il faut souligner que les frais de contribution des télécommunicateurs sont distincts de charges prévues pour recouvrer les coûts directs engagés pour raccorder un télécommunicateur interurbain concurrentiel au réseau public commuté. Ces coûts directs d'interconnexion comportent deux composantes : les coûts de mise en marche et les coûts courants. Une fois que l'on a procédé aux modifications de mise en marche, les premiers entrants ont accès au réseau au même titre que ceux qui arrivent par la suite. Il est possible de recouvrer les coûts de mise en marche auprès du ou des premier(s) entrant(s). Le problème consisterait toutefois à déterminer le montant à percevoir des entrants suivants et à décider de rembourser ou non une partie de ces coûts aux premiers entrants.

Quant aux coûts courants (qui représentent environ 0,02 $ par minute), ils sont directement liés au volume du trafic et, par conséquent, il est logique qu'ils soient recouvrés de chaque concurrent, en fonction du volume acheminé. Cela sous-entend que les compagnies de téléphone devraient être au courant du trafic SICT/WATS acheminé par leurs concurrents, soit directement, minute par minute, soit d'une manière approximative acceptable. Par exemple, le montant des frais par ligne pourrait être établi à partir du nombre estimatif de minutes de trafic par ligne.

5.2.2 Évitement local pour échapper aux frais de contribution

L'une des conséquences de l'imposition de frais de contribution aux télécommunicateurs serait une incitation à éviter de les payer. L'évitement du réseau local pourrait être un moyen d'échapper aux frais de contribution.

Tout système de frais d'accès fondé sur l'imposition de contributions et sur leur recouvrement par frais de ligne d'accès commuté ou par minute d'utilisation d'accès commuté soulèverait le problème de l'évitement du réseau local. On pourrait éviter le réseau local et, par conséquent, le réseau public commuté, en utilisant des installations locales spécialisées pour le trafic de départ comme d'arrivée. En raison de la dispersion du trafic d'arrivée par rapport à la concentration du trafic de départ, un mécanisme de recouvrement de tous les frais de contribution, basé sur les minutes d'utilisation à l'arrivée, pourrait très bien décourager l'évitement local. La FCC a adopté cette approche (section 3.1.2).

Il existe un grand nombre d'arrangements qui permettent l'évitement local : les télécommunicateurs interurbains pourraient offrir aux abonnés un accès spécialisé à partir de leurs points d'occupation; les abonnés pourraient utiliser leurs propres installations locales privées pour atteindre le point d'occupation d'un télécommunicateur; ou les compagnies de téléphone pourraient offrir des installations spécialisées privées d'accès local à leurs gros clients, par exemple.

Non seulement l'évitement local pourrait-il réduire le niveau des revenus disponibles à des fins d'interfinancement, mais encore il pourrait entraîner la construction et l'utilisation de nouvelles installations plus coûteuses que les

installations en place. En ce sens, l'évitement pourrait s'avérer non économique pour la société, même s'il est une option de remplacement rentable pour certains utilisateurs.

L'évitement peut résulter du fait que les prix des services interurbains sont fixés à un niveau bien supérieur aux coûts de la prestation de ces services. De façon à réduire les coûts, les principaux abonnés canadiens de services de télécommunications pourraient décider de mettre en place des réseaux privés et de se retirer du réseau téléphonique public commuté. Si ces abonnés abandonnaient le réseau téléphonique public, cela entraînerait probablement une augmentation des tarifs pour les abonnés restants, du fait que les coûts fixes devraient être répartis entre un plus petit nombre d'abonnés. En théorie, ce cercle vicieux pourrait se transformer en spirale, car les tarifs seraient d'autant plus élevés pour les abonnés restants qu'un plus grand nombre d'entre eux seraient forcés d'abandonner le réseau téléphonique, et vice-versa.

Comme nous l'avons vu plus tôt, l'incitation à l'évitement n'est pas aussi forte si les frais de contribution des télécommunicateurs sont calculés en pourcentage des revenus ou des revenus nets. Cependant, les coûts de contrôle et de vérification des données financières requises seraient très élevés, en particulier dans le cas des revendeurs.

5.2.3 Obligation de fournir le service

On assimile souvent la réglementation des entreprises de services publics à l'obligation, de la part du monopole réglementé, de fournir, dans des limites raisonnables, un service à quiconque en fait la demande, en contrepartie du droit d'opérer sans concurrence et de pratiquer des prix permettant un rendement raisonnable des investissements. Si la concurrence est autorisée, la question consiste à savoir si cette obligation doit disparaître, être partagée ou continuer d'être assumée par le fournisseur de service initial, habituellement le télécommunicateur dominant, celui-ci devenant un fournisseur de service de dernier recours.

Dans le cas de la concurrence dans le service téléphonique interurbain public, plusieurs considérations entrent en jeu. Tout d'abord, si le service téléphonique local commuté continue d'être fourni en régime monopolistique, l'obligation de fournir le service ne changerait probablement pas, et seuls certains ajustements de prix s'avéreraient peut-être nécessaires pour compenser les pertes éventuelles de revenus sur les services interurbains. Il faudrait ensuite envisager l'obligation de fournir ou de maintenir les niveaux existants de service téléphonique interurbain public à des tarifs appropriés. À cet égard, on pourrait faire valoir que les avantages attendus de la concurrence, comme l'amélioration du service et du choix ou la réduction des prix, pourraient ne pas intervenir dans la même mesure pour les routes moins lucratives (lesquelles se trouvent souvent dans les régions rurales et éloignées).

En régime concurrentiel, les abonnés se trouvant dans des régions à faible densité de trafic et à coûts élevés pourraient subir deux désavantages manifestes : a) une qualité moindre du service résultant d'une baisse des investissements au titre de l'entretien du système et b) une hausse des tarifs du SICT par rapport aux tarifs

que payent les abonnés résidant le long de routes intéressantes pour la concurrence. Afin d'atténuer ces désavantages, l'organisme de réglementation pourrait choisir entre plusieurs options, notamment :

(1) Obliger les concurrents exploitant leurs propres installations à fournir un service téléphonique universel par le déploiement de leur réseau ou la revente. Tous les abonnés, et non pas simplement certains d'entre eux, pourraient alors tirer avantage des services des concurrents. Cependant, l'obligation de déployer un réseau sur des routes à faible densité pourrait être perçue comme exigeant un investissement inefficient qui, dans certains cas, pourrait se traduire par le dédoublement des installations. Une approche du genre des LATA pourrait aplanir cette difficulté.

2) Obliger les compagnies de téléphone à continuer à fournir le service, mais celles-ci pourraient être dédommagées pour leur rôle de fournisseur de service de dernier recours, peut-être par une contribution supplémentaire des concurrents.

5.2.4 Mécanismes d'établissement des prix permettant de minimiser les répercussions négatives sur les abonnés

Comme nous l'avons vu auparavant, l'introduction de la concurrence dans la prestation du service téléphonique interurbain public pourrait entraîner une majoration des tarifs du service téléphonique local (en raison de la baisse des contributions provenant des services interurbains). Cela pourrait compromettre le caractère abordable du service téléphonique pour les ménages à faibles revenus. De façon plus précise, ces ménages pourraient être obligés de modifier leurs priorités de dépenses afin de s'acquitter de factures de service téléphoniques locales plus élevées, ou choisir de "se retirer" du réseau téléphonique.[104] Les paragraphes qui suivent ont pour but d'identifier et de décrire les mécanismes d'établissement des prix visant à minimiser les répercussions négatives d'une augmentation des frais du service téléphonique local, afin de limiter les cas de retrait et de promouvoir l'universalité d'un service téléphonique abordable. Il faut signaler que l'utilité de ces méthodes ne se limite pas nécessairement à un contexte où la concurrence serait permise.

5.2.4.1 Services de la ligne vitale

On entend généralement par service téléphonique de la ligne vitale un service local grâce auquel des groupes choisis d'abonnés, par ex., les ménages à faibles revenus, peuvent disposer d'un service téléphonique local à tarifs réduits. Le choix de l'expression "ligne vitale" tient au fait que, pour un grand nombre de

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[104] Enquête fédérale-provinciale sur la tarification des télécommunications et l'universalité d'un service téléphonique abordable, Rapport aux ministres responsables des Communications, octobre 1986. L'examen concluait qu'à la suite d'augmentations des tarifs locaux, les niveaux de diminution seraient probablement minimes, même pour des augmentations tarifaires aussi élevées que 100 %.

ménages, en particulier ceux dont les membres sont handicapés ou âgés, le service téléphonique est un lien de communication essentiel avec le monde extérieur. C'est aussi un moyen privilégié d'entrer en contact avec les autorités locales en cas d'urgence. Le service de la ligne vitale n'est offert qu'à des ménages spécifiques et ciblés, qui doivent remplir des critères d'admissibilité précis. De façon générale, il s'agit de ménages à faibles revenus qui n'ont pas le téléphone ou qui, s'ils l'avaient, seraient le plus susceptibles d'y renoncer en cas de hausse des tarifs locaux.

Jusqu'à présent, il n'existe pas au Canada de service de la ligne vitale. Dans la mesure où, en vertu d'un tel système, une catégorie d'abonnés bénéficierait d'un service téléphonique local à un tarif inférieur à celui que paie l'ensemble des abonnés, on pourrait parler de discrimination. Cela pourrait aller à l'encontre des dispositions statutaires en vigueur dans certaines juridictions, en vertu desquelles les tarifs doivent être "justes et raisonnables" et s'appliquer de façon uniforme à tous les abonnés, pour des services identiques. Dans sa décision Télécom CRTC 81-15, le CRTC a, par exemple, statué que l'octroi aux assistés sociaux âgés d'une exemption des hausses des tarifs locaux pourrait être un cas de discrimination injustifiée.[105] De la même façon, dans le décret n° 59/86, la Commission des services publics du Manitoba a rejeté une proposition de création d'une ligne vitale, en vertu de laquelle des tarifs spéciaux auraient été consentis à certains ménages financièrement défavorisés, pour le motif que cela aurait été discriminatoire à l'endroit des autres abonnés du service de résidence.[106]

En supposant que les problèmes statutaires puissent être résolus (en modifiant, par exemple, les lois pertinentes), la mise en place au Canada d'un service de la ligne vitale soulèverait encore les problèmes de l'admissibilité, du financement, des caractéristiques du service et du niveau des tarifs. L'admissibilité au service de la ligne vitale pourrait dépendre des revenus d'un ménage, mais on pourrait également l'associer à des facteurs comme l'âge et le handicap physique. Offrir le service 911 à la grandeur des juridictions à des personnes qui seraient autrement privées de tout service constituerait un genre de service de la ligne vitale. En règle générale, on pourrait soit adopter les critères d'admissibilité aux programmes standard de subvention du gouvernement, soit établir des critères spécifiques d'admissibilité à ce service. Le financement du programme pourrait être assuré au niveau interne par les revenus des compagnies de téléphone et des télécommunicateurs interurbains concurrents ou, encore, par voie d'augmentation des tarifs locaux. En gros, ce seraient les abonnés des compagnies de téléphone

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[105] Décision Télécom CRTC 81-15 du 28 septembre 1981 intitulée Bell Canada - Majoration tarifaire générale.

[106] Intervention de la Manitoba Anti-Poverty Organization et de la Manitoba Society of Seniors, "In the Matter of the Manitoba Telephone System Application for an Order or Orders for the Application of (a) a general rate review increasing the majority of the Manitoba Telephone System's rates by approximately 3 p. 100, (b) the confirmation of interim ex-parte orders issued by the Board between October 3, 1985 and December 31, 1985 and (c) the introduction of local gateway services and data communication service Trial," 27 March 1986, p. 23.

et ceux des télécommunicateurs concurrents qui financeraient les services de la ligne vitale. Dans la mesure où la maximisation de l'accès au réseau téléphonique profite à l'ensemble des abonnés, on peut faire valoir qu'il incombe à l'ensemble de payer pour le petit nombre qui ne le peut pas.[107] Autre solution, les gouvernements pourraient rembourser aux compagnies de téléphone un manque à gagner équivalant à ce que les contribuables ont généralement à payer pour que le service puisse être offert aux personnes défavorisées. La mise en oeuvre d'un service de ligne vitale exigerait que les tarifs et les niveaux de service soient déterminés individuellement pour chaque compagnie de téléphone. Par ailleurs, selon les compagnies de téléphone et les régions géographiques, on pourrait envisager que le service de la ligne vitale soit offert comme un service de ligne individuelle ou de ligne à plusieurs abonnés. En outre, il faudrait que les frais du service soient fixes et fondés soit sur la capacité de payer de tel ou tel ménage, soit sur les conditions économiques générales propres à telle ou telle collectivité ou région géographique.

5.2.4.2 Services économiques

Les services économiques à faibles coûts constituent un autre moyen d'offrir le service téléphonique local aux abonnés susceptibles d'être pénalisés par une augmentation des tarifs locaux. Étant donné qu'ils sont offerts optionnellement à tous les abonnés, ces services ne sont pas discriminatoires et peuvent donc être fournis par les compagnies de téléphone sans soulever le genre de problèmes statutaires que pose souvent la prestation des services de la ligne vitale. Cependant, du fait qu'ils ne ciblent pas une clientèle particulière, les services économiques pourraient se révéler une façon inefficiente d'assurer l'universalité; ainsi, des abonnés autrement obligés de payer le tarif régulier pourraient choisir de payer moins grâce aux services économiques, sans réduire pour la peine leur utilisation du réseau. S'il est indéniable que les abonnés à faibles revenus bénéficiraient des services économiques, les compagnies de téléphone risqueraient d'enregistrer une baisse de leurs revenus des services locaux, alors que leurs coûts resteraient les mêmes, ou augmenteraient.

Le CRTC a classé le service de résidence de ligne à deux abonnés comme un service économique dans le but de promouvoir l'universalité de l'accès. Vu que, chez Bell, les tarifs du service de ligne à deux abonnés équivalent à environ 66 % de ceux du service de ligne individuelle et que, chez B.C. Tel, ce pourcentage est de l'ordre de 55%, les abonnés de ces compagnies peuvent choisir le service de ligne à deux abonnés pour atténuer les répercussions négatives des hausses des tarifs

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[107] Ce genre de proposition sous-tend comme logique que, lorsqu'un nouvel abonné se joint au réseau, il donne à l'ensemble du système un peu plus de valeur pour chacun des autres abonnés, étant donné que les possibilités d'appels sont plus grandes pour tous. Ainsi, le financement peut être justifié, particulièrement pour les abonnés qui ne pourraient autrement se prévaloir de l'accès au réseau. Voir Stephen C. Littlechild, "The Role of Consumption Externalities in the Pricing of Telephone Service, dans Pricing in Regulated Industries: Theory and Application, J.T. Wenders éd., Regulatory Matters Division, Mountain States Telephone and Telegraph, Denver, 1977.

locaux. Toutefois, les organismes provinciaux de réglementation considèrent généralement le service de ligne à deux abonnés comme un service de qualité inférieure et estiment que les coûts de prestation de ce service, dans un environnement de service essentiellement de ligne individuelle, excèdent les coûts associés à ce dernier service. Selon eux, le service de ligne à deux abonnés n'est pas, comme tel, un service économique à toutes fins pratiques.

Le service de téléphone payant peut également être utilisé comme un service économique. Jusqu'en 1977, la Commission canadienne des transports a encouragé la prestation d'un service de téléphone payant à tarifs réduits dans les régions à faibles niveaux de pénétration, même lorsque les revenus escomptés ne le justifiaient pas. (Ce service a, depuis, été interrompu.)

Il faut également tenir compte d'une autre approche qui apaiserait les préoccupations relatives à l'universalité : il s'agit de la prestation d'un service "local seulement". Étant donné qu'un grand nombre d'interruptions du service sont dues à des soldes débiteurs trop élevés en raison d'un trop grand nombre d'appels interurbains, on pourrait envisager, avant de procéder au débranchement, d'imposer une structure tarifaire fixe d'appels locaux sur certaines lignes, tout en bloquant les appels interurbains automatiques et acheminés par le téléphoniste. Une option de service "local seulement" pourrait être offerte aux abonnés, à condition qu'ils paient régulièrement leur état de compte mensuel et s'engagent à payer par versements les autres sommes dues. Le cas échéant, on pourrait exiger un dépôt de garantie pour redonner la possibilité d'effectuer des appels interurbains.

5.2.4.3 Service local tarifé à l'utilisation

L'introduction du service local tarifé à l'utilisation (SLTU), en vertu duquel l'abonné serait facturé selon la durée de chaque appel, la distance et l'heure du jour où l'appel est effectué, pourrait entraîner une réduction de la facture de téléphone des ménages qui n'effectuent pas beaucoup d'appels. Comme solution de rechange à la tarification fixe du service local, le SLTU régulier ou un SLTU à faible volume, en particulier, pourraient être employés pour atténuer les répercussions négatives des hausses des tarifs locaux mensuels fixes, dans la mesure où les abonnés pourraient établir le nombre d'appels qu'ils jugent essentiel et qu'ils peuvent se permettre.

Deux types de SLTU à faible volume pourraient contribuer à maintenir ou à augmenter les niveaux de pénétration du service téléphonique. Dans le premier cas, l'abonné aurait à payer des frais d'abonnement fixes l'autorisant à faire un certain nombre d'appels locaux, au-delà duquel des frais supplémentaires seraient perçus pour les appels additionnels. Aux États-Unis, où le service tarifé à l'utilisation a été introduit dans certaines régions, les services économiques de type SLTU équivalent à une option de service de la ligne vitale. Les ménages admissibles ont droit d'effectuer entre 20 et 60 appels "gratuits" par mois. Dans le deuxième cas, les abonnés décideraient du montant de la facture mensuelle de téléphone qu'ils ont les moyens de payer, montant au-delà duquel le service serait coupé (provisoirement débranché).

En dehors de l'Amérique du Nord, il existe une certaine forme de SLTU dans la plupart des pays industrialisés. Le SLTU a également été introduit dans un certain nombre d'états américains, le plus souvent à titre optionnel, mais parfois à titre obligatoire. Il n'a pas été adopté au Canada pour plusieurs raisons, dont : a) les énormes dépenses en capital pour installer l'équipement nécessaire à la tarification du service local, b) les hausses du coût des opérations de facturation et de relations publiques, c) l'opposition générale des consommateurs et d) le fait que l'impact général d'un tel système sur les tarifs et son efficience économique n'ont pas encore été suffisamment étudiés.

Bien que le SLTU puisse s'avérer un mécanisme efficace pour atténuer les répercussions néfastes des hausses des tarifs locaux mensuels fixes sur les abonnés à faibles revenus, les coûts et les réactions négatives possibles du public auxquels on l'associe parfois risquent d'en rendre peu probable l'adoption au Canada dans un proche avenir.

5.3 Nouveaux entrants potentiels

L'expérience étrangère pour ce qui est de la concurrence dans le service interurbain, en particulier aux États-Unis et au Japon, porte à croire qu'au Canada, le marché du SICT/WATS attirerait surtout deux types d'entrants, à savoir, les télécommunicateurs exploitant leurs propres installations et les revendeurs. Dans le premier cas, les télécommunicateurs se feraient concurrence en utilisant leurs propres installations; dans le deuxième, les entreprises concurrentes revendraient les installations et services des télécommunicateurs existants de même que ceux des nouveaux entrants exploitant leurs propres installations. En réalité, la distinction entre ces deux catégories d'entrants ne serait pas nécessairement aussi claire. On peut s'attendre à ce que de nombreux entrants offrent une combinaison de services en exploitant leurs propres installations, d'une part, et par voie de revente, d'autre part. Les sections qui suivent décrivent les caractéristiques générales de ces deux catégories d'entrants et, le cas échéant, envisagent les possibilités d'entrée en concurrence dont disposent divers télécommunicateurs déjà en place et d'autres entreprises.

5.3.1 Télécommunicateurs exploitant leurs propres installations

Pour que les télécommunicateurs exploitant leurs propres installations puissent livrer concurrence dans le marché du service téléphonique interurbain public, il faudrait d'abord qu'ils soient raccordés aux centraux locaux des compagnies de téléphone. Parmi les entrants potentiels dont il est question ci-dessous, il faut distinguer les télécommunicateurs en place (B.C. Rail, Cantel, CNCP et Télésat et, dans une certaine mesure, les fournisseurs de service radio cellulaire affiliés aux compagnies de téléphone) et les propriétaires de réseaux privés exploitant la capacité excédentaire de leurs propres systèmes privés de micro-ondes (compagnies d'hydro-électricité et compagnies de câblodistribution). Parmi les autres entrants potentiels, il faut citer les nouveaux télécommunicateurs qui seraient prêts à investir pour se doter de leurs propres systèmes numériques de micro-ondes ou de fibres optiques, en particulier sur les routes intervilles à forte densité. Si l'expression "exploitant ses propres installations" sous-entend le recours à des systèmes en dehors des réseaux interurbains des compagnies de

téléphone, il est probable que les entreprises concernées seraient obligées, dans une certaine mesure, d'envisager la revente pour accroître la couverture géographique de leur réseau ou pour répondre à leurs besoins de capacité pendant les heures de pointe. Avant ou au lieu de construire leurs propres installations, les concurrents pourraient choisir de louer les installations et (ou) les services des compagnies de téléphone.

Dans l'évaluation des possibilités pour différentes catégories de télécommunicateurs exploitant leurs propres installations d'entrer avec succès en concurrence, il est nécessaire de tenir compte de plusieurs facteurs susceptibles d'augmenter ou de réduire leurs occasions d'affaires :

(1) Les concurrents ayant déjà leurs propres installations de réseaux pourraient au départ, bénéficier d'un avantage important au niveau des coûts par rapport aux nouveaux entrants, lesquels devraient consentir des investissements majeurs dans de nouvelles installations.

(2) La complexité technique des réseaux pourrait aussi influer sur la viabilité des concurrents.

(3) Pendant les premières phases de l'entrée en concurrence, les télécommunicateurs en place auraient un avantage par rapport aux exploitants de réseaux privés, en ce sens qu'ils jouissent déjà d'une présence bien établie sur le marché ainsi que d'une expertise supérieure au niveau des opérations et de la commercialisation, pour la prestation d'un service public.

(4) Pour le moment, le ministère fédéral des Communications interdit aux détenteurs d'une licence d'exploitation d'un système de micro-ondes privé de vendre leur capacité excédentaire. Si le marché du SICT/WATS devenait concurrentiel, il faudrait réexaminer cette interdiction.

Pour ce qui est des facteurs 1 et 3 précités, le CNCP et Télésat sont actuellement les mieux placés pour pénétrer le marché du service téléphonique interurbain public au niveau national. L'existence d'installations en place sur toutes les routes à forte densité au Canada et entre le Canada et les États-Unis leur procure un avantage important par rapport aux autres entrants potentiels.

Si l'on compare le CNCP et Télésat, il semble que le premier détienne certains avantages. Le CNCP est particulièrement bien placé pour se livrer à la concurrence, vu qu'il est déjà doté d'un réseau national de micro-ondes et qu'il entend étendre son système de fibres optiques. Quant à Télésat, elle a l'avantage de couvrir par satellite tout le territoire canadien et d'offrir des services dont les coûts sont insensibles à la distance. Son désavantage perçu tient toutefois à un retard de transmission d'un quart de seconde, retard que le grand public risque d'avoir de la difficulté à accepter. Aux États-Unis, les micro-ondes et les fibres optiques sont les technologies privilégiées par les télécommunicateurs exploitant leurs propres installations, les fibres optiques l'étant d'ailleurs de plus en plus. En réalité, les principaux télécommunicateurs interurbains américains sont déjà tous dotés d'importants réseaux de fibres optiques ou sont en train de le devenir. À cet égard, le CNCP a suivi les progrès technologiques. Rien n'empêche que

Télésat pourrait devenir un important fournisseur dans certains segments du marché, comme les abonnés ayant des besoins importants de réseaux particulièrement étendus ou ceux qui exploitent dans les régions éloignées.

Le CNCP et Télésat sont peut-être les mieux placés pour fournir le service téléphonique interurbain public à l'échelle nationale, mais il existe des occasions d'affaires pour d'autres entrants, au niveau régional ou sur des routes particulières. Par exemple, Cantel et Bell Cellulaire acheminent à l'heure actuelle, dans la zone de desserte de Bell Canada, une partie importante du trafic cellulaire du SICT sur leurs propres réseaux privés de micro-ondes. Bien que la couverture géographique de leurs installations soit limitée, elles assurent le raccordement des services cellulaires dans des régions où se trouvent également les principaux centres métropolitains canadiens. Les installations des réseaux cellulaires sont donc bien placées pour desservir les routes à forte densité de trafic. En ce qui concerne Cantel, ou même Bell Cellulaire et B. C. Cellulaire, un scénario possible d'entrée en concurrence serait que ces compagnies opèrent en tant que télécommunicateurs exploitant leurs propres installations dans les couloirs les plus utilisés et en tant que revendeurs (par le WATS, par exemple) pour permettre l'acheminement du trafic additionnel à destination et en provenance de points situés en dehors de leur réseau.

B.C. Rail pourrait également avoir certains avantages à opérer comme télécommunicateur régional. Elle serait bien placée pour utiliser son réseau actuel de micro-ondes pour fournir le service téléphonique interurbain public aux abonnés de la Colombie-Britannique et, par voie d'interconnexion aux installations de Norouestel, aux abonnés du Yukon et de la partie ouest des Territoires du Nord-Ouest.

Pour ce qui est des compagnies de câblodistribution, des consortiums de câblodistribution et des compagnies d'hydro-électricité, s'il est vrai qu'ils sont dotés de leur propres installations privées de micro-ondes importantes au niveau intervilles, ils n'ont pas, en tant qu'entrants potentiels sur le marché du SICT/WATS, le même degré d'expérience dans l'exploitation et la commercialisation des services de télécommunications que les compagnies dont nous avons déjà parlé. En outre, certains de leurs réseaux peuvent s'avérer quelque peu désuets ou situés dans des couloirs géographiques à faible volume de trafic. Cependant, si leurs installations se trouvaient le long de routes à forte densité de trafic, elles pourraient avoir la possibilité de louer la capacité excédentaire à d'autres télécommunicateurs ou d'entrer elles-mêmes dans le marché du téléphone interurbain public.

Il faut également tenir compte des considérations suivantes lorsqu'on évalue les possibilités d'entrée en concurrence :

(1) Le nombre de compagnies qui, parmi les nouveaux entrants dans le marché interurbain, exploitent leurs propres installations peut être faible. L'expérience américaine a prouvé que le marché du SICT/WATS ne peut absorber qu'un nombre limité de nouveaux entrants. Le marché canadien étant plus petit, l'entrée illimitée risquerait de le fragmenter et de rendre difficile pour quelque compagnie que ce soit la possibilité de s'approprier

une part suffisante du marché pour pouvoir opérer à long terme. On peut s'attendre à ce que les forces du marché aient pour effet de réduire le nombre de nouveaux entrants à un niveau que le marché peut tolérer.

(2) L'existence d'un marché de revente risquerait d'éroder les parts de marché accessibles aux concurrents exploitant leurs propres installations (ou vice-versa). La revente risquerait de rendre difficile pour ces derniers d'acquérir des parts du marché, en particulier s'ils doivent construire de nouvelles installations de réseaux. Comme nous l'avons déjà vu, les nouveaux entrants exploitant des installations terrestres seraient obligés de recourir à la revente afin d'élargir la couverture de leur réseau ou de satisfaire leurs besoins de capacité pendant les heures de pointe, en particulier dans les premières phases de la l'implantation du réseau. Il est également intéressant de noter qu'aux États-Unis, certains nouveaux entrants exploitant leurs propres installations comme Allnet, une filiale d'ALC, ont d'abord été des revendeurs. De fait, ces télécommunicateurs ont, semble-t-il, constaté qu'il était plus rentable de se livrer à la concurrence en exploitant leurs propres installations plutôt qu'en restant de simples revendeurs.

(3) Des occasions de concurrence pourraient se présenter si les compagnies de téléphone établies étaient obligées d'appliquer des tarifs moyens de route, ou de maintenir des prix ou des paiements de contribution plus élevés que ceux de leurs concurrents. Ces obligations créeraient probablement des possibilités d'entrée sur les routes à coûts peu élevés (forte densité).

(4) Si les compagnies de téléphone étaient autorisées à rééquilibrer les tarifs de leurs services interurbains et locaux avant de permettre l'entrée en concurrence et jouissaient d'une certaine latitude dans leur tarification, les occasions d'entrée en concurrence diminueraient.

(5) Les perspectives de réussite des entreprises concurrentes dans un marché concurrentiel dépendraient du régime de réglementation adopté. (On trouvera à la section 5.1 les incidences de la réglementation dans la discussion des divers modèles de concurrence.)

Dans un environnement concurrentiel relativement ouvert, il est possible que l'on assiste, comme aux États-Unis, à l'apparition de fournisseurs régionaux de services en gros, c'est-à-dire de télécommunicateurs qui offrent leurs services à d'autres télécommunicateurs. Aux États-Unis, comme l'a montré l'analyse de l'expérience américaine, les télécommunicateurs affiliés au National Telecommunications Network (NTN) louent leurs installations en gros à des télécommunicateurs interurbains qui, à leur tour, proposent leurs services au public. De cette façon, les télécommunicateurs interurbains n'auraient ni à acheter ni à installer leurs propres réseaux. Au contraire, ils pourraient louer les installations des fournisseurs de services de transmission en gros. Ainsi, ils pourraient entrer dans le marché interurbain sans avoir à investir le temps ou les dépenses en capital nécessaires à la construction ou à l'expansion de leurs réseaux de transmission. Au Canada, certains propriétaires de réseaux privés (qu'il s'agisse de réseaux de micro-ondes ou de fibres optiques), de même que

Télésat Canada, pourraient choisir d'opérer de cette façon, plutôt que de construire des installations permettant d'offrir directement le SICT/WATS au public.

5.3.2 Revendeurs

5.3.2.1 Nature des activités de revente

On parle de revente lorsque le service téléphonique est fourni au public par le truchement d'installations de transmission ou de services loués de télécommunicateurs exploitant leurs propres installations (par ex., les compagnies de téléphone, CNCP, Télésat). Le type de revente le plus fréquemment discuté pour la prestation du service téléphonique interurbain public est un système qui fait intervenir l'arbitrage, en raison des écarts qui existent entre les prix des services à escompte de volume (y compris le WATS et les services de lignes directes) que proposent les compagnies de téléphone et les tarifs plus élevés du SICT. Une occasion classique de revente serait l'achat de services à prix de gros à des fins de revente comme SICT à un tarif inférieur aux tarifs du SICT de la compagnie de téléphone. Il est également possible de proposer un tarif inférieur au tarif du SICT des compagnies de téléphone lorsque les prix des services à prix de gros des autres télécommunicateurs (par ex., CNCP, Télésat) sont mêmes inférieurs à ceux des services comparables offerts par les compagnies de téléphone.

La revente (dans le but d'offrir des services autres que le SICT/WATS) est un phénomène encore relativement nouveau au Canada; nous avons donc préféré, dans la discussion qui suit sur la revente dans le but de fournir le SICT/WATS, mettre l'accent sur certaines des caractéristiques générales des revendeurs potentiels et sur le contexte du marché dans lequel ils seraient appelés à opérer, au lieu de chercher à déterminer quelles seraient les compagnies en place les plus susceptibles de se transformer en revendeurs du SICT/WATS. D'après l'expérience étrangère, et la structure de la tarification étant ce qu'elle est actuellement, le marché des services interurbains risque fatalement d'attirer un grand nombre de revendeurs. Il reste à savoir s'ils pourraient imposer leur présence sur le marché, où et sous quelle forme.

5.3.2.2 Structure des coûts et viabilité des revendeurs

Les coûts des revendeurs comporteraient essentiellement quatre composantes : a) les coûts de location des installations; b) les coûts des équipements de commutation; c) les coûts d'exploitation et de commercialisation/publicité; et d) les frais généraux d'administration. Les installations louées coûtent cher au revendeur, mais elles n'en constituent pas moins son principal moyen de profit. Par exemple, selon une étude réalisée pour le CRTC dans le cadre de l'instance portant sur la concurrence intercirconscription,[108] les coûts mensuels de location des installations interurbaines par rapport aux revenus totaux varient, estime-

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[108] Goss, Gilroy & Associates Ltd., "A Study of Telephone Resale and Sharing in the United States and Canada", préparée pour l'instance du CRTC sur la concurrence interconscription, 5 octobre 1984.

t-on, de 33 % dans le cas d'un revendeur de grande envergure, à environ 65 % dans le cas d'un petit revendeur. Les coûts mensuels de commutation sont de l'ordre de 1 % du total des revenus. Quant aux autres dépenses mensuelles, qui incluent les frais généraux ainsi que les frais d'exploitation et de commercialisation/publicité, elles varient d'environ 25 % dans le cas d'un revendeur de grande envergure à environ 46 % dans le cas d'un petit revendeur. Cette étude prévoyait qu'un petit revendeur aurait des coûts supérieurs à ses revenus, tandis qu'un revendeur plus important pouvait s'attendre à enregistrer des profits intéressants.

Les facteurs externes peuvent aussi exercer un impact considérable sur la viabilité d'un revendeur, le plus significatif étant la restructuration des tarifs susceptible de faire suite aux mesures prises par les compagnies de téléphone en réaction à la concurrence, ou aux mesures de réglementation imposées dans le but d'aligner davantage les tarifs sur les coûts de prestation du service. La restructuration des tarifs pourrait, par exemple, se traduire par la réduction des tarifs du SICT/WATS sans que cela entraîne de baisse proportionnelle des tarifs d'autres services; cela aurait pour effet de réduire les écarts de prix existant entre le SICT/WATS et les services de lignes directes à rabais. Inversement, la restructuration des tarifs pourrait se faire par une majoration du prix des services à rabais par rapport à celui du SICT ou du SICT/WATS ou encore, de façon plus générale, par le rééquilibrage des tarifs locaux et interurbains. Une telle restructuration des tarifs aurait pour effet de réduire l'écart de prix existant entre le SICT/WATS et les services à rabais, écarts dont dépend la revente. Les entrants dans la revente se retrouveraient ainsi dans une situation paradoxale, leur viabilité dépendant des structures tarifaires adoptées par les compagnies avec lesquelles ils sont en concurrence. En outre, les organismes de réglementation pourraient exiger que les revendeurs indemnisent, en partie ou en totalité, les compagnies de téléphone pour la diminution de la contribution que le service téléphonique interurbain apporte actuellement au recouvrement des coûts d'accès des abonnés. Bien que tout cela puisse contribuer à rendre moins nécessaire le rajustement des rapports entre les tarifs, les occasions de revente pour offrir le SICT/WATS risqueraient de se raréfier, en particulier si les contributions atteignent des niveaux élevés.

La réduction des écarts de prix existant au niveau des services interurbains fournis par les compagnies de téléphone aurait pour effet de limiter les possibilités de revente, mais cela ne veut pas nécessairement dire que toutes les incitations à l'entrée dans la revente disparaîtraient. Par exemple :

(1) Dans le cas où les coûts de nouvelles installations sont très élevés, les concurrents exploitant leurs propres installations pourraient juger plus intéressant d'opérer en tant que revendeurs. Si les compagnies de téléphone continuaient d'être obligées d'appliquer des tarifs moyens de route, les concurrents pourraient concentrer leurs efforts sur la construction d'installations de réseau dans les régions à faibles coûts, quitte à louer les installations des compagnies de téléphone en place dans les régions à coûts élevés.

(2) La restructuration des tarifs interurbains canadiens risquerait de maintenir un écart encore important par rapport au prix du SICT/WATS des États-Unis et, par conséquent, certaines compagnies pourraient envisager de faire de la revente en utilisant les installations des télécommunicateurs américains. Cependant, la réduction des écarts de prix entre le SICT/WATS disponible sur les réseaux canadiens, d'une part, et sur les réseaux américains, d'autre part, aurait pour effet de réduire les incitatifs de revente transfrontalière, en particulier lorsqu'il s'agit du trafic transcanadien, en raison des coûts d'accès transfrontaliers qui interviennent dans un sens comme dans l'autre.

(3) La possibilité pour les fournisseurs exploitant leurs propres installations de recourir au SICT/WATS à prix de gros réduits pourrait encore présenter certains incitatifs d'entrée aux revendeurs.

Bien que les exemples précités permettent de penser que les occasions de revente ne dépendent pas totalement des structures tarifaires des compagnies de téléphone, force est de constater ce qui suit : il y aurait d'autant moins d'occasions de revente que les prix du SICT diminueraient plus vite que ceux des autres services interurbains à rabais offerts par les compagnies de téléphone ou par d'autres fournisseurs. Par conséquent, vu l'incidence de la concurrence sur les prix, la viabilité des revendeurs pourrait s'avérer davantage fonction de la valeur ajoutée des services offerts (par exemple, capacité plus grande de répondre aux besoins de la clientèle, factures plus détaillées, etc.) ou des créneaux choisis que des écarts tarifaires entre les SICT ou SICT/WATS offerts par les compagnies de téléphone, d'une part, et les différents services interurbains disponibles à prix de gros, d'autre part.

Comme nous l'avons vu, les revendeurs ne sont habituellement pas propriétaires de leurs propres installations de transmission et, par conséquent, ils n'ont pas à engager de coûts en capital trop importants, en dehors des équipements de commutation. Cet avantage initial au niveau des coûts pourrait leur permettre de pénétrer plus rapidement le marché du SICT/WATS que d'autres entrants exploitant leurs propres installations. Il ne faut toutefois pas oublier que le CNCP et Télésat disposent d'importantes installations de réseau, notamment de transmission, déjà en place, ce qui pourrait réduire cet avantage initial des revendeurs, si l'entrée était autorisée simultanément pour les revendeurs et pour les entreprises exploitant leurs propres installations. Si, une fois admis sur le marché, les télécommunicateurs en place, comme le CNCP, étaient autorisés à élargir la base de leur réseau existant par le truchement de la revente, cela pourrait compromettre encore davantage les occasions de concurrence des revendeurs. Si l'entrée des télécommunicateurs existants exploitant leurs propres installations est autorisée, la viabilité des entrants dans la revente dépendra en dernière analyse, dans une grande mesure, de la réglementation qui leur sera imposée. Si un télécommunicateur exploitant ses propres installations est autorisé à appliquer au SICT/WATS des prix inférieurs à ceux des compagnies de téléphone, les possibilités de revente diminueront d'autant, sauf si le revendeur offre des services à valeur ajoutée.

5.4 Scénarios de concurrence pour le Canada

Les sections précédentes de ce chapitre ont décrit les caractéristiques générales de l'entrée en concurrence dans le marché du service téléphonique interurbain public au Canada et fourni un bref aperçu des entrants potentiels. Cette section présente une série de scénarios de concurrence susceptibles de s'appliquer au contexte canadien. La discussion qui suit se fonde sur l'hypothèse que les caractéristiques générales de l'entrée en concurrence ne changeront pas et met l'accent sur les questions géographiques et juridictionnelles qui se posent, ainsi que sur les aspects de la structure de l'industrie susceptibles de définir le caractère particulier de la concurrence dans le marché du SICT/WATS au Canada.

5.4.1 Scénarios de concurrence à dimension géographique

Cette section examine divers scénarios de concurrence qui peuvent être distingués par leur étendue géographique. Bien qu'il n'en soit pas explicitement question dans la discussion suivante, il est bon de noter que, si la concurrence était autorisée dans une zone géographique déterminée, cela pourrait influer sur d'autres zones, par voie de changements au niveau des revenus à répartir entre les compagnies de téléphone.

5.4.1.1 Concurrence extraprovinciale/extraterritoriale

Dans ce scénario, il y aurait hypothèse de l'introduction uniforme de la concurrence dans la prestation du service téléphonique interurbain public dans l'ensemble du Canada, sur une base extraprovinciale/extraterritoriale. Cela veut dire que la concurrence interviendrait dans le trafic interurbain, intercompagnies, Canada–É.–U. et Canada–outre–mer, mais pas dans le trafic interurbain intraprovincial/intraterritorial. De plus, les concurrents seraient également contraints de respecter le monopole accordé à Téléglobe Canada pour l'acheminement du trafic outre–mer; il serait ainsi impossible d'envisager d'autres moyens d'acheminer le trafic Canada–outre–mer, en passant par les États–Unis, par exemple.

Dans le cas de compagnies comme Bell Canada et Norouestel, dont les zones de desserte couvrent plus d'une province ou d'un territoire, la concurrence serait introduite sur une base extracompagnie. En théorie, pour Bell Canada et Norouestel, on pourrait songer à introduire la concurrence intracompagnie sur une base interprovinciale/interterritoriale. Ce mécanisme soulèverait toutefois de graves problèmes d'établissement de prix de revient ainsi que d'organisation.

L'introduction de la concurrence sur une base extraprovinciale/extraterritoriale réduirait de façon marquée le pourcentage des revenus provenant du SICT/WATS vulnérable à la concurrence. Comme l'indique le tableau 2–3, environ 40 % seulement du total des revenus du SICT/WATS pour l'ensemble de l'industrie serait touché.

5.4.1.2 Concurrence extraprovinciale/extraterritoriale plus interrégionale

L'introduction de la concurrence sur une base extraprovinciale/extraterritoriale ne signifie pas nécessairement son exclusion au niveau intraprovincial/intraterritorial. En effet, il serait possible d'introduire la concurrence intraprovinciale/intraterritoriale, que la concurrence extraprovinciale/extraterritoriale soit permise ou non. C'est une question que pourraient être appelés à trancher les organismes de réglementation concernés, au sein de chaque juridiction. Ainsi, chaque organisme de réglementation pourrait choisir d'autoriser, d'interdire ou de retarder cette concurrence. Par exemple, le CRTC pourrait choisir d'autoriser la concurrence dans les zones de desserte de Bell Canada et de B.C. Tel, parallèlement à l'introduction de la concurrence extraprovinciale/extraterritoriale, mais décider de la retarder dans les zones de desserte de Norouestel et de Terra Nova. En outre, certaines provinces pourraient interdire cette concurrence. Quant à la concurrence intraprovinciale extracompagnie, elle pourrait faire l'objet d'ententes conjointes entre les organismes de réglementation fédéral et provinciaux.

En partant du principe que la concurrence extraprovinciale que nous avons décrite est possible, on peut supposer un autre scénario, celui de la concurrence interrégionale, dans lequel les juridictions qui le souhaitent ouvriraient à la concurrence une partie seulement du trafic du SICT/WATS intraprovincial/intraterritorial. Dans ce scénario, où la concurrence serait introduite sur une base interrégionale, seul serait ouvert à la concurrence le trafic du SICT/WATS intraprovincial/intraterritorial entre les principaux centres de population. Les provinces et les territoires seraient ainsi divisés en une ou plusieurs régions, chacune comprenant un grand centre de population, et le SICT/WATS serait offert en régime concurrentiel entre ces centres de population, mais sans qu'une compagnie de téléphone ne détienne de monopole sur ces services.

Cela revient essentiellement au concept des LATA adopté aux États-Unis. Dans son rapport, la firme d'experts-conseils Economics and Technology Inc. propose d'appliquer le principe des LATA au Canada.[109] Elle suggère que chaque province ou territoire soit, en gros, considéré comme une LATA. Toutefois, les provinces qui comptent plus d'un grand centre de population – comme l'Ontario, le Québec et l'Alberta – pourraient être divisées en un certain nombre de régions du genre des LATA. En outre, l'expert-conseil avance que l'Île-du-Prince-Édouard, les Territoires du Nord-Ouest et le Yukon pourraient être combinés à d'autres LATA si à cause des facteurs démographiques ou géographiques, il était impossible à chacun de soutenir la concurrence "interLATA".

Par contraste, le scénario envisagé ici se fonde sur l'hypothèse que les régions proposées, assimilables à des LATA, correspondent aux zones de desserte des compagnies de téléphone et ne dépassent pas les frontières d'une province ou d'un territoire, sauf pour ce qui est des zones de desserte de Bell Canada et de Norouestel. Ainsi, chaque juridiction pourrait décider d'autoriser ou non la

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[109] Economics and Technology Inc., étude commandée par le Groupe de travail.

concurrence interrégionale, sans empiéter sur la compétence des autres juridictions.

Pour ce scénario comme pour le scénario précédent, il existe deux moyens d'autoriser les entreprises concurrentes à accéder aux abonnés des compagnies de téléphone. Premièrement, on pourrait envisager un mécanisme de raccordement aux télécommunicateurs similaire à ceux que nous avons décrits précédemment (section 4.2.3). Les concurrents seraient obligés d'établir un point d'occupation dans chaque zone de desserte locale où ils ont l'intention de faire de la concurrence, de façon à ce que leurs abonnés puissent accéder au réseau local des compagnies de téléphone et bénéficier des SICT/WATS offerts par la concurrence. Le mécanisme de raccordement exigerait cependant de modifier le réseau, au niveau intraprovincial/intraterritorial ou intrarégional, le cas échéant, afin d'empêcher l'acheminement du trafic non autorisé jusqu'au point d'arrivée. La compagnie de téléphone d'origine ou le concurrent pourrait s'en charger quoique, dans ce dernier cas, il faudrait probablement prévoir des mesures de vérification. Sur cette base, seuls les abonnés des principaux centres urbains dans lesquels les concurrents choisiraient d'établir un point d'occupation pourraient bénéficier des SICT/WATS concurrentiels dans leurs secteurs d'appels locaux.

Alternativement, on pourrait envisager d'adopter un mécanisme de raccordement aux télécommunicateurs, comme celui qui existe aux États-Unis. En vertu d'un tel mécanisme, les concurrents seraient obligés d'établir un ou plusieurs points d'occupation dans une province, territoire ou région, et la compagnie de téléphone de la région serait tenue d'acheminer le trafic jusqu'à tel ou tel concurrent désigné en utilisant ses propres installations locales ou interurbaines. Les frais de raccordement aux télécommunicateurs, en vertu de ce mécanisme, pourraient être établis selon un tarif fixe ou en fonction de la distance. Ce mécanisme permettrait généralement aux abonnés d'une province, d'un territoire ou d'une région où un concurrent décide d'établir un point d'occupation de bénéficier des avantages de la concurrence. Autrement dit, les abonnés des compagnies de téléphone dans des régions particulières où le concurrent achèterait le raccordement dans une province, un territoire ou une région pourraient se prévaloir des SICT/WATS de ce concurrent.

5.4.1.3 Concurrence extraprovinciale/extraterritoriale et intraprovinciale/intraterritoriale

Ce scénario suppose l'adoption d'une méthode différente pour aborder l'entrée en concurrence. Premièrement, il part du principe que tous les services téléphoniques interurbains publics offerts seraient ouverts à la concurrence. Deuxièmement, il présume qu'un concurrent établirait ses points d'occupation dans des zones d'appel locales désignées comme telles par les organismes de réglementation ou choisies par les concurrents dans tout le Canada. L'accès aux télécommunicateurs se ferait par un système comme celui que nous avons décrit à la section précédente de même qu'à la section 4.2.3.

Pour que ce scénario fonctionne avec le maximum d'efficacité, il faudrait que les autorités fédérales, provinciales et territoriales adoptent une position commune

face à l'entrée en concurrence. Les caractéristiques de base de ce scénario sont similaires à celles qu'a proposées le CNCP dans le cadre de l'instance du CRTC portant sur la concurrence intercirconscription,[110] sauf qu'il ne serait pas nécessairement limité à des compagnies de téléphone réglementées par le CRTC. Ce scénario ressemble également à celui adopté récemment au Japon. Il constitue le fondement de l'exercice de modélisation financière présenté au chapitre 6 à propos de l'impact de la concurrence dans la prestation du service interubain.

Du point de vue d'un nouvel entrant dans un marché interurbain concurrentiel, la stratégie la plus attrayante serait d'offrir le service de départ, en commençant par les centres les plus peuplés et en finissant par les moins peuplés. En dernière analyse, les concurrents pourraient offrir des services interurbains concurrentiels de départ, à partir de tous les centraux locaux du Canada. (C'est sur cette base qu'ont été calculés les coûts d'accès des télécommunicateurs pour le scénario pancanadien présenté à la section 4.2.3).

Dans ce scénario, les fournisseurs de services de remplacement exploitant leurs propres installations utiliseraient généralement leurs propres installations de transmission dans l'ensemble du pays. Dans le but d'acheminer une plus grande partie des appels d'arrivée, ils pourraient également revendre les services interurbains (comme le WATS) des compagnies de téléphone ou autres concurrents. Quant aux revendeurs, ce serait bien sûr leur principal moyen de fournir le service. Des SICT/WATS concurrentiels pourraient être offerts entre le Canada et les États-Unis et entre le Canada et outre-mer, à condition que des ententes de raccordement soient conclues avec les télécommunicateurs américains ou avec Téléglobe Canada, respectivement. Ayant la possibilité d'exploiter des capacités d'acheminement des appels comme le WATS, les concurrents seraient par conséquent en mesure d'acheminer les appels d'arrivée à une population d'abonnés beaucoup plus importante que pour les appels de départ. En réalité, s'il existait dans ce scénario une capacité plus limitée au début concernant les appels de départ, les concurrents chercheraient indéniablement à répondre aux besoins de leurs abonnés en leur offrant le plus vite possible des services universels d'acheminement des appels d'arrivée.

5.4.2 Concurrence dans un marché ciblé – routes à forte densité de trafic

Ce scénario modère l'attente selon laquelle les principaux télécommunicateurs exploitant leurs propres installations offriraient des services concurrentiels à la majorité des abonnés du téléphone, dans des zones désignées. Il nous amène à envisager la possibilité que les concurrents se concentrent sur les segments du marché et sur les routes à forte densité de trafic les plus lucratifs. Toutefois, les compagnies de téléphone continueraient d'opérer en tant que fournisseurs de services de dernier recours et seraient obligées de fournir le service à tous les abonnés de leurs zones de desserte respectives.

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[110] Avis public Télécom CRTC 84-6 du 11 janvier 1984 intitulé Concurrence interconscription et questions connexes. Télécommunications CNCP, "Application for Interchange of Traffic with Public Switched Telephone Networks," 25 octobre 1983.

S'il n'existait aucune obligation de fournir le service sur une base raisonnablement universelle, on pourrait s'attendre à ce que les concurrents se concentrent sur les principales routes intervilles où le volume de trafic est le plus élevé. En réalité, les télécommunicateurs exploitant leurs propres installations pourraient choisir d'exploiter uniquement le long du couloir Québec–Windsor et dans les villes du triangle de l'Ouest – Edmonton, Calgary et Vancouver – de même qu'entre les deux, étant donné qu'une bonne partie du trafic interurbain est concentré sur ces routes. Un concurrent pourrait envisager de desservir d'autres villes si le trafic et (ou) l'existence des installations nécessaires le justifiait.

L'impact d'un tel scénario sur une compagnie de téléphone dépendrait de la réglementation. Si les compagnies de téléphone étaient tenues de maintenir des tarifs moyens de route sans que les concurrents ne soient assujettis à une exigence similaire, elles seraient alors vulnérables à la concurrence dans la mesure où les concurrents pourraient fournir le service sur des routes à plus forte densité pour un prix global -- y compris le paiement de contribution -- inférieur au tarif moyen de route des compagnies de téléphone. Si celles-ci étaient autorisées à offrir des tarifs de route particuliers, leur capacité de livrer concurrence au chapitre des prix dépendrait encore des principes de réglementation utilisés dans l'établissement des prix des compagnies de téléphone sur les routes très achalandées.

On pourrait s'attendre à ce que les concurrents adoptent un comportement concurrentiel propre aux circonstances particulières dans lesquelles ils se trouvent. Par exemple, le CNCP pourrait se concentrer sur son réseau de transmission par fibres optiques pour livrer concurrence sur les principales routes. Un nouveau concurrent, exploitant lui aussi un réseau de fibres optiques, risquerait d'avoir de la difficulté à faire concurrence à une compagnie comme le CNCP, déjà bien établie sur le marché. De même, Télésat pourrait choisir d'axer ses efforts sur les marchés du Nord et le trafic à grande distance ainsi que sur les réseaux privés. Cantel et Bell Cellulaire se sont toutes les deux dotées d'installations modernes de micro-ondes dans les principaux couloirs de trafic de l'Ontario et du Québec. Étant donné qu'elles disposent déjà d'installations en place pour offrir le service radio cellulaire, il leur serait relativement simple d'inclure, dans leur gamme de services, des services interurbains ordinaires (par opposition aux services mobiles).

Diverses institutions ayant un réseau privé de télécommunications pourraient également choisir de se livrer à la concurrence sur des routes spécifiques. Même si elles s'appuient généralement sur des technologies plus anciennes, leur succès dans le marché du SICT/WATS dépendrait surtout de la possibilité qu'elles auraient d'utiliser leur capacité excédentaire à faibles coûts pour offrir des services concurrentiels. Avec des coûts marginaux peu élevés, ce genre de concurrents (et d'autres comme Cantel ou Bell Cellulaire, par exemple) pourraient être capables de pratiquer des prix inférieurs à ceux des réseaux de fibres optiques les plus nouveaux.

Ce genre de concurrence aboutirait inévitablement à des pressions en faveur de la suppression des tarifs moyens. Si on le leur permettait, les compagnies de téléphone pourraient répondre aux tarifs pratiqués par leurs concurrents en

réduisant sélectivement leurs prix sur les routes vulnérables. Ce genre de mesure aurait pour conséquence ultime de faire augmenter les tarifs des routes à faible densité. Nous avons vu qu'au Royaume-Uni, British Telecom et Mercury sont toutes les deux autorisées à appliquer sur les routes à haute densité des tarifs inférieurs à ceux qu'elles appliquent sur les routes à faible densité. Cependant, cette pratique existait avant que Mercury n'entre sur le marché intérieur des télécommunications, et il est encore trop tôt pour conclure si, oui ou non, la concurrence a eu pour effet d'accroître l'écart entre les tarifs des routes à faible et haute densité.

5.4.3 Concurrence dans la prestation du SICT/WATS au palier international

Ce scénario va plus loin que les scénarios précédents, puisqu'il décrit ce qui se passerait au Canada si l'on faisait preuve de permissivité à l'égard de la concurrence dans la prestation du service interurbain au palier international. Dans les scénarios élaborés antérieurement, on a supposé que les concurrents utiliseraient des installations se trouvant entièrement au Canada pour le trafic en provenance et à destination du Canada. Cela signifie que les concurrents ne seraient pas autorisés, par une politique gouvernementale ou des mesures de réglementation, à détourner ce trafic par les États-Unis afin de pouvoir profiter de prix interurbains plus bas. Parallèlement, on a supposé que tous les télécommunicateurs seraient tenus de conclure des ententes avec Téléglobe Canada pour l'acheminement du trafic Canada-outre-mer. (Cette hypothèse tient compte du monopole effectif qui a été accordé à Téléglobe Canada jusqu'en 1992.) Deux possibilités sont envisagées : premièrement, on fait valoir que les concurrents seraient autorisés à éviter les installations canadiennes de télécommunications, en se servant des installations américaines pour acheminer leur trafic intérieur et Canada-outre-mer; deuxièmement, on analyse ce qui se passerait si Téléglobe Canada perdait le monopole qu'elle détient actuellement sur le trafic Canada-outre-mer.

5.4.3.1 Évitement des installations canadiennes

Étant donné la grande proximité des principaux centres canadiens par rapport à la frontière américaine, le trafic intérieur et Canada-outre-mer pourrait facilement être acheminé par les États-Unis. Ce type d'évitement des installations canadiennes se produirait si les concurrents canadiens (par exemple, les revendeurs) choisissaient d'utiliser les installations des télécommunicateurs américains, ou si les télécommunicateurs américains choisissaient d'étendre leurs réseaux jusqu'au Canada à cette fin. Le débat sur l'évitement concerne aussi le trafic Canada-outre-mer du fait que, comme nous l'avons vu, le monopole effectif de Téléglobe Canada sur le trafic outre-mer lui est accordé jusqu'en 1992.

En premier lieu, les concurrents choisiraient d'acheminer le trafic interurbain canadien par les États-Unis en tirant avantage des tarifs du SICT/WATS moins élevés aux États-Unis. Il suffirait que les concurrents obtiennent un accès transfrontalier (généralement par le truchement d'installations partagées) pour que les abonnés canadiens bénéficient des tarifs en vigueur aux États-Unis. Le tableau 5-3 présente une comparaison des prix interétats d'AT&T par rapport aux tarifs applicables au trafic intracompagnie, transcanadien et Canada-É.-U.

TABLEAU 5-3

Comparaison des prix d'AT&T et de Bell Canada pour des appels interurbains automatiques (appel de jour de cinq minutes, en dollars canadiens)

Distance (en milles)	I Tarifs interétats d'AT&T(1)	Ia Tarifs É.-U.-Can. d'AT&T(2)	II Tarifs intra-compagnie de Bell Canada (3)	III Différence en pourcentage (I-II)/I	IV Tarifs trans-canadiens de Bell Canada (4)	V Différence en pourcentage (I-IV)/I	VI Tarifs Canada-É.-U. de Bell Canada (5)	VII Différence en pourcentage (I-VI)/I
5	0,94 $	0,83 $	0,65 $	31 %	0,70 $	26 %	0,65 $	31 %
25	1,26 $	1,45 $	1,30 $	-3 %	1,30 $	-3 %	1,19 $	6 %
75	1,37 $	1,87 $	1,90 $	-39 %	1,95 $	-43 %	1,78 $	-30 %
150	1,51 $	2,42 $	2,05 $	-35 %	2,90 $	-92 %	2,30 $	-52 %
250	1,51 $	2,77 $	2,10 $	-39 %	3,50 $	-131 %	2,56 $	-69 %
500	1,64 $	3,45 $	2,20 $	-34 %	4,10 $	-150 %	3,32 $	-103 %
750	1,64 $	3,69 $	2,20 $	-34 %	4,50 $	-175 %	3,59 $	-119 %
1000	1,71 $	3,93 $	2,20 $	-29 %	4,60 $	-169 %	3,71 $	-117 %
1500	1,71 $	4,17 $	2,20 $	-29 %	4,60 $	-169 %	3,76 $	-120 %
2000	1,79 $	4,37 $	2,20 $	-23 %	4,70 $	-162 %	3,77 $	-110 %

Notes:

(1) Il s'agit des tarifs en vigueur au 1er janvier 1988, avec un taux de change de 1 $ US = 1,25 $ CAN.

(2) En vigueur au 15 avril 1988, exprimés en devises canadiennes.

(3) En vigueur au 1er avril 1988, selon l'échelle tarifaire 1.

(4) En vigueur au 1er avril 1988. Les tarifs transcanadiens s'appliquent aux services fournis entre deux compagnies de téléphone canadiennes dont les zones de desserte ne sont pas adjacentes.

(5) En vigueur le 1er juillet 1987. Les tarifs Canada-É.-U. s'appliquent à des services fournis entre une compagnie de téléphone canadienne et une compagnie de téléphone américaine, sauf celles des états qui ne sont pas contigus et des territoires, ou entre une compagnie de téléphone canadienne et une autre desservant le Mexique.

SOURCE: Tarifs de Bell Canada et d'AT&T.

de Bell Canada, pour un appel de cinq minutes acheminé par l'interurbain automatique, à des distances différentes. On peut considérer les prix d'AT&T comme représentatifs puisque, à l'heure actuelle, les tarifs interurbains des principaux concurrents aux États-Unis ne varient en moyenne que de quelques points de pourcentage (section 3.1.8). La comparaison des prix révèle que, pour toutes les catégories d'appels, les tarifs de Bell Canada sont moins élevés pour les courtes distances et plus élevés pour les distances plus longues. Les appels intracompagnie ne sont que marginalement plus coûteux, alors que les appels transcanadiens le sont beaucoup plus. Le tableau 5-4 montre les tarifs internationaux d'AT&T par rapport aux tarifs actuels Canada-outre-mer (de Téléglobe Canada), pour un appel de huit minutes acheminé par l'interurbain automatique, à destination de différents pays. Selon les pays auxquels les appels sont destinés, les tarifs canadiens courants varient entre 7 % de moins que les tarifs américains et 27 % de plus. Cependant, ces écarts de prix ne correspondent pas à l'ensemble de la situation que rencontrerait un concurrent. De fait, l'avantage que représentent les tarifs américains au niveau des prix serait réduit si on y ajoutait les coûts d'accès transfrontalier (c'est-à-dire qu'il faudrait deux installations transfrontalières pour que les concurrents canadiens utilisent les services interétats d'AT&T). Ces coûts d'accès réduiraient probablement à un niveau négligeable les risques d'évitement pour le trafic intracompagnie. Par contre, le trafic transcanadien et Canada-outre-mer resterait vulnérable, bien que sa vulnérabilité ait diminué à la suite des récents changements tarifaires de Téléglobe. De plus, avec le niveau des tarifs d'AT&T pour les appels É.-U.-Canada, tel qu'indiqué au tableau 5-3, il est impossible que le concurrent utilise un seul point transfrontalier, puis le SICT É.-U.-Canada d'AT&T, pour compléter l'appel.

Cette analyse repose sur les niveaux de prix actuels pour montrer la vulnérabilité du trafic interurbain intérieur et outre-mer canadien à une déviation par les États-Unis. Dans un contexte concurrentiel canadien, les tarifs interurbains pourraient être sensiblement inférieurs et, ainsi, la vulnérabilité à l'évitement, en raison des écarts tarifaires, pourrait être réduite.

La concentration du trafic dans certaines catégories et le long de routes spécifiques constitue un autre indicateur de la vulnérabilité du trafic à l'évitement par les États-Unis. Le trafic empruntant certaines routes intercompagnies semble le plus vulnérable. Par exemple, près de 26,5 % du trafic de départ acheminé par B.C. Tel (192 millions de dollars - tableau 2-3) fait partie de la catégorie intercompagnies. Une partie importante de ce trafic est probablement destinée aux grands centres se trouvant dans le territoire de Bell Canada. De même, environ 37 % du trafic de départ d'AGT fait partie de la catégorie intercompagnies (187 millions de dollars), et il est probable que sa destination soit en grande partie la zone desservie par Bell Canada. De ces deux compagnies, c'est le trafic de B.C. Tel qui est le plus vulnérable, du fait que la distance est plus courte entre Vancouver et la frontière américaine (et, par conséquent, les coûts de l'accès transfrontalier sont moins élevés) qu'entre Calgary ou Edmonton et la frontière américaine. Manitoba Tel semble vulnérable aussi pour ce qui est du trafic intercompagnies (110 millions de dollars ou 52,4 %). Une grande partie de ce trafic part de Winnipeg, qui se trouve relativement près de la frontière américaine, et il est probablement destiné à de grands centres urbains se trouvant dans les zones des-

TABLEAU 5-4

Comparaison des prix d'AT&T et de Téléglobe Canada pour des appels internationaux acheminés par l'interurbain automatique (appel de jour de huit minutes, en dollars canadiens)

	AT&T*	Téléglobe**	Majoration en pourcentage par rapport aux tarifs d'AT&T
Royaume-Uni	11,05 $	11,48 $	4 %
France	12,33 $	11,48 $	-7 %
Allemagne	12,33 $	15,39 $	20 %
Italie	12,33 $	16,83 $	27 %
Suisse	12,33 $	15,39 $	20 %
Japon	16,83 $	21,25 $	21 %

* Il s'agit des tarifs en vigueur en mars 1988, exprimés en devises canadiennes, 1 $ US = 1,25 $ CAN.

** En vigueur le 1er juin 1988.

SOURCE: Tarifs de Téléglobe Canada et d'AT&T.

servies par Bell Canada, Sasktel, AGT et B.C. Tel. Bell Canada enregistre à elle seule des revenus de 302 millions de dollars sur le trafic de départ intercompagnies. La plus grande partie de ce trafic émane de villes situées le long du couloir Québec–Windsor, lequel est relativement proche de la frontière américaine, et il est en grande partie destiné à de grands centres, eux aussi situés près de la frontière américaine (Vancouver, Calgary, Winnipeg, etc.)

Les compagnies de téléphone qui desservent l'est du Canada sont moins vulnérables à l'évitement par les États–Unis, en raison de la taille plus modeste de leurs marchés, de la dispersion du trafic et du fait que les principaux centres urbains sont situés à une distance plus grande de la frontière américaine. Les zones desservies par Island Tel, Newfoundland Tel et Terra Nova sont suffisamment éloignées de la frontière américaine et leurs revenus sont suffisamment modestes pour qu'elles ne soient probablement pas menacées par l'évitement par les États–Unis. Dans la zone de desserte de N.B. Tel, la dispersion du trafic de départ entre Saint–Jean, Fredericton et Moncton est un facteur qui limite aussi cette menace. Quant à MT&T, ses revenus du trafic intercompagnies de départ, dont une grande partie provient de la région Halifax–Dartmouth, se chiffrent à 73 millions de dollars. Si l'on ajoutait les coûts d'accès transfrontalier au Maine, il est probable que ce trafic n'offrirait que des possibilités marginales d'évitement.

La menace d'évitement intracompagnie par les États–Unis ne semble exister que le long du couloir Québec–Windsor. C'est le seul axe est–ouest intracompagnie pour lequel le volume de trafic de départ soit important, les distances de transmission non négligeables et la proximité de la frontière américaine suffisante pour offrir un certain potentiel d'évitement. À l'heure actuelle, cependant, l'écart très faible qui existe entre les tarifs interétats d'AT&T et les tarifs intracompagnie de Bell Canada a pour effet de réduire la probabilité d'un évitement par les États–Unis le long de ce couloir.

Il faut toutefois souligner que le trafic intracompagnie pourrait devenir plus vulnérable à l'évitement si les installations destinées à accéder à des services concurrentiels étaient acquises dans le but de s'approprier d'autres catégories de trafic (intercompagnies Canada–États–Unis et Canada–outre–mer). Les concurrents pourraient décider d'offrir et les abonnés, d'acheter, des services interurbains offerts sous forme de forfait. Un concurrent qui aurait recours à l'évitement par les États–Unis pourrait constater que les coûts marginaux de l'évitement intracompagnie sont suffisamment bas pour justifier qu'il ajoute à sa gamme de services les appels intracompagnie, entre autres.

Pour le trafic de départ Canada–outre–mer, AGT, B.C. Tel et Bell Canada sont les plus vulnérables à la concurrence des télécommunicateurs américains. Ensemble, ces trois compagnies enregistrent près de 94 % des revenus du trafic de départ Canada–outre–mer. Comme nous l'avons déjà vu, les modifications récentes des tarifs de Téléglobe devraient réduire cette vulnérabilité. Cependant, si les concurrents offraient le trafic Canada–outre–mer en même temps que d'autres trafics, sous la forme de forfait, l'évitement des installations de Téléglobe serait possible même si les incitations au niveau des tarifs n'étaient que modestes.

5.4.3.2 Libre concurrence dans la prestation des services Canada–outre–mer

Cette section fait rapidement le point de la situation si Téléglobe Canada perdait le monopole qui lui est accordé sur le trafic Canada–outre–mer.[111] Dans les scénarios envisagés, nous sommes partis de l'hypothèse que la concurrence du trafic Canada–outre–mer était une éventualité, mais que les concurrents seraient tenus de conclure des ententes de raccordement avec Téléglobe. Pour pouvoir jouir d'un avantage concurrentiel, il faudrait donc être capable d'acheminer le trafic jusqu'aux centres de transit international de Téléglobe, à un coût inférieur à celui des autres concurrents, ou de négocier une entente de raccordement à des conditions plus avantageuses.

La concurrence sur le trafic Canada–outre–mer deviendrait peut–être plus intéressante si les concurrents étaient en mesure de trouver d'autres moyens d'acheminer le trafic Canada–outre–mer. Il est probable qu'ils rechercheraient avant tout à conclure des ententes de raccordement avec des télécommunicateurs américains comme AT&T, MCI, etc. S'ils pouvaient négocier des ententes pour l'acheminement en gros du trafic Canada–outre–mer par les télécommunicateurs américains, les tarifs des concurrents seraient du même ordre que les tarifs appliqués par ces télécommunicateurs. Il se pourrait également que les télécommunicateurs canadiens soient intégrés aux ententes conclues entre des télécommunicateurs américains et des compagnies étrangères, auquel cas les concurrents canadiens ne seraient pas obligés de négocier d'ententes spéciales pour leur permettre d'accéder aux marchés outre–mer.

Dans ce scénario, on peut également envisager que les compagnies de téléphone chercheraient à conclure des ententes de raccordement avec des télécommunicateurs américains pour acheminer le trafic Canada–outre–mer. Cependant, étant donné que presque 75 % des revenus du trafic Canada–outre–mer proviennent de la seule zone desservie par Bell Canada et qu'en outre, BCE Inc. détient indirectement (par l'entremise de BCE Commcor Inc.) environ 30 % des parts de Memotec Data Inc. (la société mère de Téléglobe), cette possibilité semble plutôt lointaine, du moins dans le cas du trafic outre–mer de Bell Canada.

5.5 Résumé

Ce chapitre a présenté une analyse de l'entrée en concurrence dans le marché interurbain au Canada. Il a porté plus particulièrement sur certains modèles généraux et divers scénarios liés à l'introduction possible de la concurrence dans la prestation du service téléphonique interurbain public. Depuis le modèle de marché non réglementé en passant par un modèle de réglementation du télécommunicateur dominant jusqu'à un modèle de marché concurrentiel complètement réglementé, voilà autant de modèles de concurrence étudiés. Dans les scénarios de concurrence, on s'est penché sur les formes variées que la concurrence pourrait prendre, selon divers facteurs géographiques et juridictionnels et les structures

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[111] Le gouvernement fédéral a, au moment de la privatisation de Téléglobe Canada, indiqué que le monopole effectif de cette compagnie a été prolongé jusqu'en 1992. (Voir note 2).

de l'industrie. Par exemple, la concurrence pourrait être autorisée a) sur une base extraprovinciale/extraterritoriale seulement, b) sur une base extraprovinciale/extraterritoriale et, de plus, dans certaines juridictions, sur une base interrégionale, ou c) sur une base extraprovinciale/extraterritoriale et intraprovinciale/intraterritoriale dans certaines localités du pays. De plus, la concurrence, si elle était autorisée, pourrait ne survenir que sur des routes à forte densité ou dans des zones de marché ciblées. Les scénarios explorent aussi ce qui pourrait arriver si un mécanisme permissif à l'égard de la concurrence internationale était autorisé.

Une importante question que soulève l'examen de la concurrence dans le service téléphonique public interurbain est celle de ses répercussions possibles sur le maintien de l'universalité du service téléphonique à prix abordables. Une méthode de maintien de l'universalité du service consisterait à imposer des frais aux concurrents, de sorte qu'ils contribueraient au recouvrement des frais d'accès des abonnés qu'il faudrait peut-être autrement recouvrer au moyen de tarifs locaux plus élevés. En outre, les compagnies de téléphone et, dans une certaine mesure, les nouveaux entrants, pourraient se voir tenus de dispenser le service. Enfin, on pourrait appliquer des mécanismes d'établissement des prix afin d'aider les abonnés qui, autrement, pourraient résilier leur service téléphonique si les tarifs locaux augmentaient sensiblement.

La méthode qui consiste à fournir aux concurrents l'accès aux abonnés des compagnies de téléphone est une autre question clé. Une entente sur l'accès des télécommunicateurs, semblable aux LATA américaines, pourrait être adoptée. Des installations locales et interurbaines des compagnies de téléphone seraient utilisées pour fournir aux concurrents l'accès aux abonnés dans toute une zone de marché (une province, un territoire ou une région). Selon la conversion des circonscriptions locales pour offrir cet accès et les frais de dédommagement institués par les compagnies de téléphone pour acheminer le trafic interurbain vers d'autres télécommunicateurs, un concurrent particulier pourrait choisir d'offrir des services, soit sur une base universelle, soit dans certaines zones géographiques seulement. Par contre, l'accès des télécommunicateurs pourrait être fourni sur une base de circonscription locale dans les localités où un concurrent choisit d'accéder au marché interurbain. Avec ce deuxième mécanisme, seules les installations locales des compagnies de téléphone seraient normalement utilisées pour offrir aux concurrents l'accès aux abonnés. La différence clé entre les deux mécanismes réside dans la possibilité d'une couverture plus rapide et élargie par un concurrent. Dans le cas du premier mécanisme, un concurrent pourrait choisir d'offrir le service aux abonnés sur une base générale dès le début. Dans l'autre cas, les services d'un concurrent ne seraient probablement disponibles au début qu'aux abonnés des zones d'appel des grands centres.

6.0 ANALYSE FINANCIÈRE DE LA CONCURRENCE DANS LA PRESTATION DU SERVICE TÉLÉPHONIQUE INTERURBAIN PUBLIC

Ce chapitre décrit les résultats d'un exercice de simulation qui a été effectué pour évaluer les répercussions financières de l'introduction de la concurrence dans la prestation du service téléphonique interurbain public au Canada sur les compagnies de téléphone. Cette analyse visait surtout à déterminer : a) les variations de tarifs locaux provoquées par l'entrée en concurrence et b) le montant des paiements de contribution qu'un concurrent aurait les moyens de payer. Ces deux paramètres clés ont été déterminés en fonction d'un éventail de scénarios de concurrence fondés sur l'hypothèse que les fournisseurs potentiels du SICT/WATS seraient capables d'offrir leurs services à prix réduits tout en restant rentables. Il faut noter que l'éventail de scénarios étudiés ici est plus restreint que celui qui a été débattu au chapitre 5; on a également supposé que les concurrents auraient besoin d'une interconnexion distincte à chaque circonscription locale de départ dans laquelle ils voudraient fournir le service .

L'étude de simulation, intitulée "Les répercussions financières de la concurrence dans les services téléphoniques publics interurbains sur les compagnies de téléphone du Canada", a été réalisée à partir de modèles financiers élaborés par la firme KPMG Peat Marwick, de Toronto, engagée par le Groupe de travail. Même si certaines des données d'appui et des hypothèses ont été spécifiées par le Groupe de travail, les modèles ainsi que les paramètres qui les sous-tendent ont été élaborés indépendamment par l'expert-conseil.

Le plan de ce chapitre se présente comme suit : la section 6.1 expose les hypothèses retenues concernant la réglementation, présente les paramètres et hypothèses-clés des modèles financiers et décrit les scénarios de concurrence qui ont été simulés. La section 6.2 présente des scénarios de référence pour 1995 indique notamment les niveaux estimatifs des tarifs interurbains et locaux qui prévaudraient si la concurrence n'était pas autorisée. Ces tarifs ont tout d'abord été projetés à partir des rapports actuels entre les tarifs et, deuxièmement, à partir de l'hypothèse que ces rapports changeraient (c'est-à-dire le rééquilibrage des tarifs). La section 6.3 discute des résultats obtenus lorsque la concurrence est simulée. La section 6.4 expose certaines conclusions.

6.1 Modèle de simulation financière

6.1.1 Hypothèses concernant la réglementation

L'étude de Peat Marwick est partie de l'hypothèse que le cadre de réglementation serait le suivant : les tarifs seraient fixés en fonction de certains principes de tarification, notamment l'établissement des tarifs moyens à l'échelle d'une compagnie, l'établissement des tarifs fondés sur la valeur du service et l'établissement des tarifs moyens de route. Les compagnies de téléphone seraient des télécommunicateurs de dernier recours, auraient certaines obligations de fournir le service sur demande et offriraient une gamme complète de services téléphoniques interurbains et locaux. L'étude de Peat Marwick s'est en outre fondée sur l'hypothèse que, entre autres choses, les organismes de réglementation prescriraient la portée géographique de la concurrence, de même que les modalités

d'accès des réseaux et des abonnés des compagnies de téléphone serait autorisé aux fournisseurs de services concurrentiels. Parmi ces modalités, il faut citer le niveau et la structure des paiements de contribution que les compagnies de téléphone seraient autorisées à percevoir de leurs concurrents, en dédommagement de la perte des revenus de contribution provenant des services interurbains induite par la concurrence dans la prestation du SICT/WATS. On a en outre supposé que l'organisme de réglementation obligerait les compagnies de téléphone à recouvrer, par le truchement de hausses de tarifs locaux exclusivement, la totalité du manque à gagner induit par la concurrence.

6.1.2 Description des modèles

Aux fins de l'analyse, Peat Marwick a élaboré trois modèles financiers, à savoir, un modèle applicable aux compagnies de téléphone, un modèle applicable aux fournisseurs possibles du SICT/WATS exploitant leurs propres installations et un modèle applicable aux revendeurs. Le rapport de l'expert-conseil, dont on trouvera un aperçu ci-dessous, contient une description détaillée des modèles. Le modèle applicable aux compagnies de téléphone est une version élargie et plus élaborée d'un modèle précédemment utilisé par Peat Marwick pour d'autres études, notamment pour l'Enquête fédérale-provinciale sur la tarification des télécommunications et l'universalité d'un service téléphonique abordable.[112] Ce modèle englobe 17 compagnies de téléphone importantes – les membres de Telecom Canada et les huit autres suivantes :

- Télécommunications Terra Nova;
- Québec-Téléphone;
- Télébec;
- Northern Telephone;
- Thunder Bay Telecommunications;
- "edmonton telephones";
- Prince Rupert City Telephones; et
- Norouestel.

Le modèle applicable aux compagnies de téléphone simule les répercussions financières sur les principales compagnies de téléphone précitées de l'entrée en concurrence d'un télécommunicateur national exploitant ses propres installations, d'une part, et des revendeurs, d'autre part. Le modèle tient compte des coûts et revenus résultant des procédures de partage des revenus adoptés par les compagnies de téléphone. Dans le cas des compagnies membres de Telecom Canada, ces procédures incluent le Plan de partage des revenus (PPR) et plusieurs autres ententes de partage. Les ententes de partage adoptées par les compagnies non membres de Telecom Canada sont également prises en considération. On trouvera

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[112] Peat, Marwick et associés, "Impacts of Competition in Message Toll Telephone Services," rapport commandé par le ministère des Communications, Ottawa, et les gouvernements provinciaux, septembre 1984 (l'"Étude sur la concurrence"). Voir également l'Enquête fédérale-provinciale sur la tarification des télécommunications et l'universalité d'un service téléphonique abordable, Documents de travail, octobre 1986, chapitre 3.

à l'annexe C une description des ententes de partage adoptées par les compagnies membres de Telecom Canada et par les autres compagnies de téléphone. Le modèle intègre un sommaire des données financières relatives aux compagnies de téléphone, pour les années 1978, 1982 et 1986 ainsi que les tarifs locaux et interurbains des compagnies de téléphone en vigueur le 31 décembre 1987. À partir de ces données et de certaines hypothèses concernant la variation éventuelle des paramètres sous-jacents, le modèle prédit le rendement financier des compagnies de téléphone en 1995. L'année 1995 a été retenue comme année-témoin parce que l'on a supposé que la concurrence interurbaine commencerait en 1989 et que le marché concurrentiel approcherait de sa maturité en 1995.

Comme on l'a noté, le modèle des compagnies de téléphone, pour ce qui est des membres de Telecom Canada, repose sur les méthodes de séparation des coûts déterminés par le PPR de Telecom Canada. La principale caractéristique des chiffres utilisés dans l'exercice de modélisation est que les revenus locaux et interurbains excèdent les frais imputés tandis que les revenus pour une ligne d'abonné et une catégorie résiduelle sont moindres que ces frais. Par exemple, les chiffres utilisés par l'expert-conseil pour Bell Canada sont présentés au tableau 6-1. Un surplus d'environ 2,5 milliards de dollars en 1986 provenant des services locaux et interurbains est compensé par un manque d'un montant semblable dans les catégories ligne d'abonné et résiduelle; un montant semblable utilisé dans le modèle pour 1995 est estimé à environ 4,5 milliards de dollars. Des chiffres proportionnellement comparables s'appliquent à d'autres membres de Telecom Canada et indiquent l'ampleur des paiements de contribution inhérents aux catégories tarifaires et au processus de partage des revenus de Telecom Canada.

Le modèle applicable aux fournisseurs possibles du SICT/WATS exploitant leurs propres installations simule les résultats financiers d'un télécommunicateur national exploitant ses propres installations, sur une période de 15 ans. Ce modèle a été mis au point par l'expert-conseil sur la base de la documentation déposée par le CNCP dans sa "Requête en révision de la décision Télécom CRTC 85-19", [113] à partir de renseignements supplémentaires fournis par le CNCP et d'autres témoignages disponibles. Ce modèle vise à rendre compte de la portée géographique de la concurrence et des variations du volume de trafic du SICT/WATS. Il pose par hypothèse que le concurrent lancerait ses opérations en 1989 et atteindrait environ 95 % de sa part de marché maximale en 1995. Le taux supposé de pénétration du marché a été estimé à partir d'une courbe logistique.

Le modèle suppose qu'un an après le début de ses opérations, le concurrent aurait la capacité de desservir environ 60 % de tous les abonnés des régions où la concurrence interurbaine est autorisée. Au bout de la deuxième année, cette capacité passerait à 70 %. Le modèle suppose également qu'au cours des trois premières années, les appels interurbains acheminés grâce aux installations du concurrent seraient exclusivement destinés à des villes desservies par lui et qu'ils émaneront de 60 à 70 % de la population de chaque province et territoire desser-

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[113] Télécommunications CNCP, "Requête en révision de la décision Télécom CRTC 85-19," 19 décembre 1985.

TABLEAU 6-1

Revenus et attributions des dépenses selon le Plan de partage des revenus pour Bell Canada utilisés dans la modélisation des effets sur la concurrence

(en millions de dollars)

ANNÉE	POSTE	CATÉGORIE DE SERVICES					
		LOCAUX	INTERURBAINS	LIGNES D'ABONNÉS	RÉSIDUELS	CONCURRENTIELS ET TERMINAUX	TOTAL
1986	Revenus	1 393,8	2 896,9	0	566,2	1 423,8	6 280,7
	Dépenses	966,3	848,3	1 464,9	1 577,4	1 423,8	6 280,7
	Excédent(Déficit)	427,5	2 048,6	(1 464,9)	(1 011,2)	0	0
1995	Revenus	2 118,1	6 277,5	0	878,3	1 613,9	10 887,9
	Dépenses	1 885,9	1 976,6	2 964,3	2 447,1	1 613,9	10 887,9
	Excédent(Déficit)	232,2	4 300,9	(2 964,3)	(1 568,8)	0	0

SOURCE: Peat Marwick, étude commandée par le Groupe de travail, Pièce A2.

vis. On a supposé que ce pourcentage augmenterait entre la quatrième et la septième année, suite à la mise en service d'installations supplémentaires et à la possibilité de recourir aux services des compagnies de téléphone (le WATS, par exemple), de sorte qu'à la fin de la septième année (1995), le concurrent desserve l'ensemble des abonnés.

À la fin de cette période, on a supposé que 85 % de la population combinée des provinces ou territoires desservis serait en mesure de s'abonner aux services proposés par le concurrent exploitant ses propres installations. Dans un scénario où l'on estime que la concurrence sera autorisée dans tout le Canada, le nombre minimum de centres urbains qui devraient être desservis par des concurrents exploitant leurs propres installations dans les divers territoires et provinces serait :

–	Terre-Neuve	3	–	Manitoba	3
–	Île-du-Prince-Édouard	1	–	Saskatchewan	5
–	Nouvelle-Écosse	5	–	Alberta	8
–	Nouveau-Brunswick	3	–	Colombie-Britannique	10
–	Québec	24	–	Territoires du Nord-Ouest	1
–	Ontario	29	–	Yukon	1

L'étude a implicitement supposé que le concurrent exploitant ses propres installations conclurait des ententes de raccordement avec les télécommunicateurs américains et Téléglobe Canada, afin qu'ils assurent les services Canada-États-Unis et Canada-outre-mer, respectivement, aux mêmes conditions que celles qui les lient actuellement à Telecom Canada.

Le résultat clé de cette partie de l'exercice de modélisation permet d'évaluer le montant des paiements de contribution que les concurrents exploitant leurs propres installations auraient les moyens de verser aux compagnies de téléphone, tout en restant financièrement viables. La viabilité a été définie comme étant un taux de rendement interne de 13 % sur 10 ans. Dans chaque scénario de concurrence dans la prestation du service interurbain, le montant de contribution "abordable" prévu a été intégré au modèle applicable aux compagnies de téléphone, sous la forme d'un pourcentage fixe des tarifs appliqués par chaque compagnie de téléphone. Le montant des paiements de contribution payable à chaque compagnie de téléphone par minute sera ainsi différent.

Le modèle applicable aux revendeurs a été dérivé du modèle applicable aux télécommunicateurs exploitant leurs propres installations. On a estimé que la taille moyenne d'un revendeur (en se fondant sur les revenus des compagnies) était d'environ le quart de celle d'un télécommunicateur exploitant ses propres installations. Compte tenu du fait que les revendeurs possédant leur propre équipement de commutation louent les installations de lignes directes interurbaines ainsi que le WATS des compagnies de téléphone et d'autres télécommunicateurs exploitant leurs propres installations, on a supposé que l'ensemble des coûts en capital ainsi que des coûts d'entretien et d'exploitation de chaque revendeur représentaient 40 % de ceux du télécommunicateur exploitant

ses propres installations. On a également supposé qu'au départ, les revendeurs utiliseraient principalement le WATS pour offrir le SICT à leurs abonnés et qu'au fur et à mesure que le nombre de leurs abonnés augmenterait, ils auraient davantage tendance à utiliser les installations de lignes directes en remplacement du WATS. Dans ces conditions, le WATS ne servirait plus que pour le trafic excédentaire et pour le trafic d'arrivée dans les régions à faible densité. Le modèle reflète bien cette hypothèse, puisqu'au cours des sept premières années d'exploitation, les coûts des revendeurs imputables à la location d'installations passeraient de 60 % à 36 % des tarifs appliqués au SICT/WATS par les compagnies de téléphone.

Les différents modèles envisagés permettent de dériver des résultats clés se rapportant aux répercussions financières de l'entrée en concurrence pour chaque compagnie de téléphone. On en trouvera une description au paragraphe suivant. Ces répercussions financières ont ensuite été utilisées pour calculer les variations des tarifs locaux que chaque compagnie de téléphone devrait appliquer pour compenser ces répercussions, tant pour le service de résidence que d'affaires.

6.1.3 Modélisation des scénarios de concurrence

Une série de scénarios de concurrence ont été modélisés pour déterminer les répercussions financières de l'entrée en concurrence. Ces scénarios se caractérisent par les paramètres suivants :

(1) Entrants :

- télécommunicateurs exploitant leurs propres installations, seulement;
- revendeurs, seulement; ou
- combinaison de télécommunicateurs exploitant leurs propres installations et de revendeurs (en supposant une division du marché de 75 % pour la première catégorie de concurrents et de 25 % pour la deuxième.)

(2) Extension géographique de la concurrence :

- tout le Canada;
- dans (et entre) les zones de desserte des compagnies membres de Telecom Canada; ou
- dans (et entre) les zones exclusivement desservies par Bell Canada et B.C. Tel.

(3) Paiements de contribution :

- suffisamment élevés pour compenser toute répercussion financière négative sur les compagnies de téléphone;
- aucun paiement de contribution; ou
- montant des paiements de contribution calculé pour garantir la viabilité financière des concurrents, selon qu'ils accordent des rabais sur les prix de 0, 10 ou 25 %.

4) Part du marché de base perdue par les compagnies de téléphone :

- 10 % et 20 %.

Les ententes concernant l'accès des télécommunicateurs varient selon le type de fournisseurs de services possibles et selon la part du marché détenue. En ce qui concerne les télécommunicateurs exploitant leurs propres installations, on a fait correspondre l'accès de type F (c'est-à-dire 1 + le numéro demandé) au scénario de 20 % de perte de la part du marché, et l'accès de type D (1-950-0XXX) au scénario de 10 % de perte de la part du marché. Pour les revendeurs, on s'en est tenu à l'accès de type D.

Après avoir dérivé les résultats pertinents pour chacun des scénarios décrits plus haut, des analyses de sensibilité ont été réalisées à partir d'un certain nombre d'éléments de données qu'on a gardé constants pour tous les scénarios étudiés, à savoir, l'élasticité de la demande du SICT/WATS par rapport aux prix, l'élasticité par rapport à l'investissement, les ententes d'accès et les taux de rendement internes exigés par les concurrents.

6.2 Scénario de référence pour 1995

Pour déterminer les répercussions prévues en 1995 de l'entrée en concurrence dans le marché du service téléphonique interurbain public, les experts ont établi deux scénarios de référence permettant de prévoir l'évolution des tarifs locaux en dehors de la concurrence. Le premier scénario a supposé le maintien des rapports actuels entre les tarifs (les changements nécessaires étant apportés aux niveaux même des tarifs); le second a supposé le rééquilibrage partiel des tarifs locaux et interurbains en 1989, c'est-à-dire avant l'entrée en concurrence. Ces deux scénarios sont décrits ci-après.

6.2.1 Scénario pour 1995 sans entrée en concurrence - scénario projeté à partir des rapports entre les tarifs actuels

Le modèle applicable aux compagnies de téléphone mis au point par Peat Marwick indique que les abonnés de la plupart des compagnies de téléphone ne connaîtraient que des augmentations annuelles très modestes des tarifs locaux entre 1988 et 1995 (le manque à gagner serait réparti de façon égale entre les tarifs locaux et interurbains intracompagnie). Les tarifs locaux des services de résidence et d'affaires pour le scénario de référence de 1995 sont exposés dans les tableaux 6-2 et 6-3, en plus des tarifs au 31 décembre 1987. Les variations des tarifs locaux obtenues sont considérées comme bien inférieures aux prévisions du taux d'inflation. Les résultats de l'exercice de modélisation permettent de penser que le caractère modéré des variations tarifaires est la conséquence : a) du fait que la tendance à l'amélioration de la productivité des compagnies de téléphone s'est maintenue et a compensé, dans une grande mesure, les hausses de coûts dues à l'inflation; b) d'un taux de croissance beaucoup plus élevé du trafic interurbain (dont la marge de profit est élevée) que du service local (marge de profit peu élevée); c) de la réalisation d'importantes économies d'échelle au niveau des installations interurbaines; et d) de la poursuite des progrès technologiques,

TABLEAU 6-2

Estimations des tarifs locaux mensuels moyens - service de résidence

COMPAGNIE	31 DÉC. 1987	CAS DE BASE POUR 1995		DIFFÉRENCE ENTRE LES CAS DE BASE
		STRUCTURES TARIFAIRES ACTUELLES	RÉÉQUILIBRAGE DES TARIFS	
Newfoundland Tel	10,47 $	11,39 $	17,90 $	6,51 $
Island Tel	9,55	10,13	15,38	5,25
MT&T	10,46	9,89	17,22	7,33
NBTel	9,43	9,12	16,94	7,82
Bell Canada	9,32	10,39	15,36	4,97
Manitoba Tel	6,67	6,21	11,72	5,51
SaskTel	6,71	6,07	14,08	8,01
AGT	7,78	8,23	18,46	10,23
B.C. Tel	10,07	10,08	17,03	6,95
Terra Nova	7,90	8,14	13,28	5,14
Québec-Tél	7,27	7,64	12,21	4,57
Télébec	10,04	11,13	14,74	3,61
Northern Tel	10,20	8,97	11,50	2,53
Thunder Bay	4,75	4,63	5,13	0,50
'edmonton tel'	8,35	6,94	6,96	0,02
Prince Rupert	7,25	8,52	8,93	0,41
Norouestel	7,00	6,46	14,79	8,33

SOURCE: Peat Marwick, étude commandée par le Groupe de travail.

TABLEAU 6-3

Estimations des tarifs locaux mensuels moyens - service d'affaires

COMPAGNIE	31 DÉC. 1987	CAS DE BASE POUR 1995		DIFFÉRENCE ENTRE LES CAS DE BASE
		STRUCTURES TARIFAIRES ACTUELLES	RÉÉQUILIBRAGE DES TARIFS	
Newfoundland Tel	34,77 $	37,82 $	59,44 $	21,62 $
Island Tel	28,62	30,36	46,10	15,74
MT&T	27,08	25,60	44,58	18,98
NBTel	33,32	32,22	59,85	27,63
Bell Canada	31,50	35,12	51,91	16,79
Manitoba Tel	19,55	18,19	34,34	16,15
SaskTel	18,88	17,07	39,61	22,54
AGT	21,61	22,85	51,28	28,43
B.C. Tel	34,67	34,72	58,65	23,93
Terra Nova	19,70	20,30	33,13	12,83
Québec-Tél	19,35	20,34	32,51	12,17
Télébec	26,45	32,05	42,42	10,37
Northern Tel	27,00	23,75	30,45	6,70
Thunder Bay	11,20	10,93	12,11	1,18
'edmonton tel'	23,16	19,24	20,51	1,27
Prince Rupert	16,77	19,70	20,65	0,95
Norouestel	14,00	12,92	29,58	16,66

SOURCE: Peat Marwick, étude commandée par le Groupe de travail.

d'où une inflation beaucoup moins élevée que le taux général de l'inflation au niveau des prix par rapport aux investissements en capital.

Dans l'étude de ces résultats et de ceux de la prochaine section, il faut noter que l'exercice de modélisation ne tenait pas compte de variations tarifaires réelles ou prévues depuis le 31 décembre 1987. Certaines compagnies de téléphone ont connu d'importantes réductions de leurs tarifs interurbains dans leurs zones de desserte, depuis ce temps.

6.2.2 Scénario pour 1995 sans entrée en concurrence – scénario projeté à partir de la modification des rapports entre les tarifs (rééquilibrage partiel des tarifs)

Un scénarios de référence distinct a été établi pour 1995 afin d'évaluer si le rééquilibrage partiel des tarifs pouvait modifier les répercussions financières associées à l'introduction de la concurrence dans la prestation du service interurbain. Pour ce scénario, on a supposé des réductions de 20 % des tarifs interurbains intracompagnie, de 50 % des tarifs interurbains intercompagnies et de 25 % des tarifs interurbains Canada–États-Unis et Canada–outre-mer, ces réductions s'accompagnant de hausses des tarifs locaux. D'après les résultats du modèle applicable aux compagnies de téléphone, il semble que le rééquilibrage des tarifs aurait un caractère partiel et que les prix des services interurbains continueraient de se situer bien au-dessus des coûts marginaux. Les tableaux 6-2 et 6-3 indiquent les niveaux des tarifs locaux mensuels prévus pour 1995, dans ce scénario. Pour les abonnés des services de résidence et d'affaires, les tarifs locaux estimés selon le scénario de rééquilibrage partiel pour 1995 seraient dans l'ensemble de 10 $ à 28 $ supérieurs, respectivement, à ce qu'ils seraient avec le scénario de 1995 si la structure tarifaire actuelle était maintenue. Les tarifs de certaines compagnies de téléphones ne varieraient que très peu.

6.3 Répercussions financières de la concurrence

D'après les données analysées par le Groupe de travail (chapitre 5), il est clair que si la concurrence interurbaine était autorisée au Canada, les nouveaux entrants ne pourraient s'approprier une part importante du marché du service téléphonique interurbain public qu'à la condition qu'ils puissent offrir des rabais sur les prix. Aucune donnée disponible ne permet cependant de déterminer de relation entre la part de marché détenue par un concurrent et les rabais consentis sur les prix. C'est pourquoi l'étude de Peat Marwick a surtout cherché à répondre aux deux questions suivantes, de type "Que se passerait-t-il si...?" :

1) Que se passerait-t-il au niveau des variations des tarifs locaux du service de résidence et du service d'affaires si les concurrents s'appropriaient 10 % du marché de base des compagnies de téléphone en consentant un rabais de 10 % sur les prix?

2) Que se passerait-t-il au niveau de ces variations si les concurrents s'appropriaient 20 % du marché de base des compagnies de téléphone en consentant un rabais de 25 % sur les prix?

On a choisi, d'une part, un cas de 10 % de perte de part du marché parallèlement à un rabais de 10 % sur les prix, et d'autre part, un cas de 20 % de perte de part du marché parallèlement à un rabais de 25 % sur les prix, du fait que l'expérience américaine de même que la preuve déposée devant le CRTC dans le cadre de l'instance sur la concurrence intercirconscription indiquent que ces deux cas sont des points de départ raisonnables pour amorcer le débat sur les répercussions financières de la concurrence dans la prestation du SICT/WATS.[114] La discussion subséquente des résultats obtenus par l'analyse de Peat Marwick met l'accent sur ces scénarios de concurrence dans lesquels le service téléphonique interurbain public est offert: a) par le concurrent exploitant ses propres installations, b) par des revendeurs ou c) par les deux à la fois, soit dans et entre les seules zones de desserte de Bell et de B.C. Tel, soit à l'échelle pancanadienne.

6.3.1 Concurrence pancanadienne des télécommunicateurs exploitant leurs propres installations

Si un télécommunicateur exploitant ses propres installations faisait de la concurrence à l'échelle nationale et pénètrait une part significative du marché existant du SICT/WATS, les résultats de l'exercice de modélisation de Peat Marwick indiquent que les coûts marginaux de la prestation du service interurbain seraient sensiblement les mêmes pour le concurrent visé par le modèle que, dans l'ensemble, pour les compagnies membres de Telecom Canada. Selon les estimations de l'expert-conseil, ces coûts se chiffreraient à 0,138 $ par minute en 1995. De ce montant, 0,088 $ correspondent aux coûts de commutation et de transmission et le reste, aux coûts de distribution locale. Cette étude révèle également que le tarif interurbain moyen des compagnies de téléphone devrait se chiffrer à 0,446 $ par minute en 1995. Par conséquent, en ce qui concerne le trafic acheminé par les compagnies de téléphone, la contribution provenant des revenus interurbains représente 0,308 $ par minute. Si un concurrent consent un rabais de 25 % sur les prix, cela donne un tarif de 0,3345 $ par minute. Si l'on soustrait de ce montant 0,138 $ par minute pour les coûts, il reste encore 0,1965 $ par minute pour couvrir les coûts fixes et indemniser les compagnies de téléphone pour leur manque à gagner sur la contribution des revenus interurbains. On arrive à 0,1115 $ par minute de moins que la contribution versée par les compagnies de téléphone sur leur propre trafic interurbain.

À cause d'une telle réduction de la contribution unitaire et d'une hausse possible des coûts fixes (attribués sur une base unitaire), même après une période de mise en marche initiale, les paiements de contribution versés aux compagnies de téléphone par un concurrent exploitant ses propres installations ne seraient pas suffisants pour compenser pleinement les répercussions financières négatives de

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[114] La part du marché a été calculée avant d'étudier la stimulation du trafic en raison des rabais de prix de concurrent. La part du marché des concurrents, y compris cette stimulation du trafic, serait légèrement plus grande.

la concurrence dans la prestation du service interurbain, à moins d'éliminer les rabais offerts. Comme il est expliqué plus loin, les revendeurs auraient des coûts plus élevés que les télécommunicateurs exploitant leurs propres installations et ils seraient ainsi encore moins en mesure d'indemniser les compagnies de téléphone. Le tableau 6-4 illustre les paiements de contribution moyens que les concurrents pourraient se permettre de verser, du moins au cours des sept à dix premières années d'exploitation. Selon ce tableau, les rabais de contribution requis varieraient en moyenne entre 30 et 38 %, selon le scénario, pour les télécommunicateurs exploitant leurs propres installations. Il faudrait en moyenne aux revendeurs des rabais de contribution entre 64 % et 78 % contre 38 % à 48 % dans un scénario comprenant à la fois des concurrents exploitant leurs propres installations et des revendeurs. Par conséquent, on pourrait s'attendre à ce que la concurrence dans la prestation du service interurbain se traduise dans l'ensemble par des hausses des tarifs locaux.

L'expert-conseil a également calculé les répercussions de la concurrence sur les tarifs locaux, en partant du principe que toutes les variations enregistrées au niveau des revenus des compagnies de téléphone se répercuteraient selon le même pourcentage sur les abonnés des services de résidence et d'affaires, c'est-à-dire en supposant que l'augmentation procentuelle des tarifs locaux des deux services soit la même. Ces variations ont également été calculées sur la base d'un même montant en dollars pour ces deux services, c'est-à-dire en supposant que l'augmentation des tarifs locaux mensuels pour les services de résidence et d'affaires soit la même. Étant donné que l'on peut faire valoir que l'application aux abonnés du service de résidence et d'affaires du même pourcentage de variation des tarifs locaux correspond davantage aux pratiques de tarification en vigueur à l'heure actuelle, le paragraphe qui suit traite uniquement de ce type de variation des tarifs locaux. Dans le rapport de l'expert-conseil, les hausses prévues sont exprimées en dollars et en pourcentage, à égalité pour chaque service, et pour les divers scénarios envisagés.

Les graphiques 6-5 et 6-6 illustrent les répercussions sur les tarifs locaux du service de résidence et d'affaires, respectivement, pour les concurrents exploitant leurs propres installations, dans tout le Canada. Parmi les compagnies membres de Telecom Canada, AGT est celle qui connaîtrait les hausses des tarifs locaux les plus marquées et Manitoba Tel, les moins fortes. Dans le scénario où la part du marché des concurrents est de 20 % et le rabais consenti, de 25 %, les tarifs mensuels du service de résidence d'AGT augmenteraient de près de 3,18 $ (soit près de 40 %), tandis que les tarifs mensuels de Manitoba Tel n'augmenteraient que de 0,63 $ (soit 10 %). L'ampleur des augmentations prévues des tarifs locaux dépend dans une grande mesure, pour chaque compagnie, de l'importance des contributions perçues sur le SICT/WATS. Manitoba Tel a une structure de coûts similaire à celle des autres compagnies membres de Telecom Canada, mais ses tarifs interurbains intracompagnie et sa contribution moyenne provenant du trafic interurbain sont les plus faibles des compagnies membres de Telecom Canada (tableau 6-7). Étant donné que, dans le modèle, les paiements d'indemnisation des concurrents ont été calculés en pourcentage des tarifs de la compagnie, si Manitoba Tel perdait le trafic interurbain au profit d'un concurrent, le "manque à gagner" moyen qu'elle devrait compenser par le truchement des hausses de tarifs locaux dans sa zone de desserte serait relativement peu élevé. Les graphi-

TABLEAU 6-4

Contribution moyenne payée par les concurrents - concurrence à l'échelle nationale

(en dollars de 1995 par minute)*

TYPE DE CONCURRENCE	RABAIS DE 25 % SUR LES TARIFS/ 20 % DE LA PART DU MARCHÉ			RABAIS DE 10 % SUR LES TARIFS/ 10 % DE LA PART DU MARCHÉ		
	PLEINE CONTRIBUTION	PAIEMENT "ABORDABLE"	% DE RABAIS	PLEINE CONTRIBUTION	PAIEMENT "ABORDABLE"	% DE RABAIS
Télécommunicateurs exploitant leurs propres installations	0,1278 $	0,0792 $	38 %	0,1453 $	0,1020 $	30 %
Revendeurs seulement	0,1249 $	0,0275 $	78	0,1425 $	0,0520 $	64
Télécommunicateurs exploitant leurs propres installations + Revendeurs	0,1271 $	0,0663 $	48	0,1446 $	0,0895 $	38

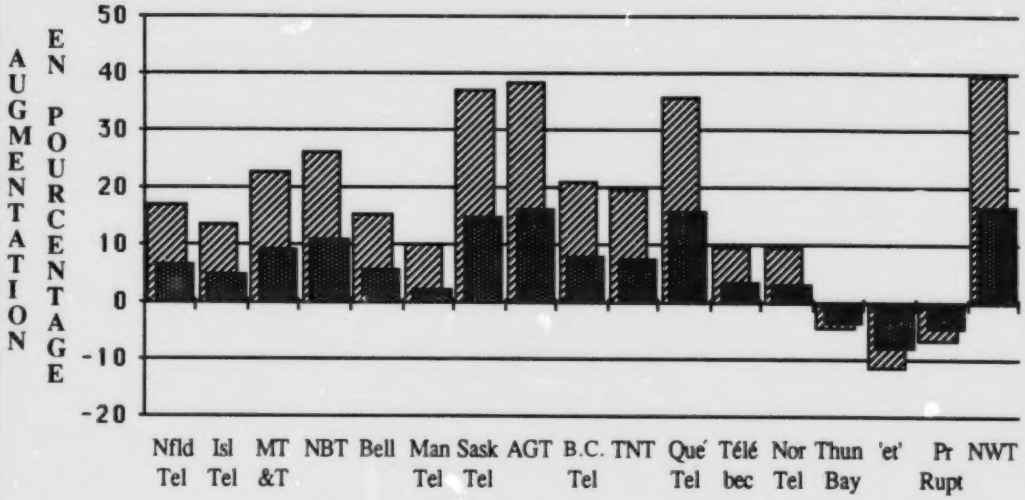
* Les paiements de contribution sont effectués deux fois, au départ et à l'arrivée de l'appel interurbain.

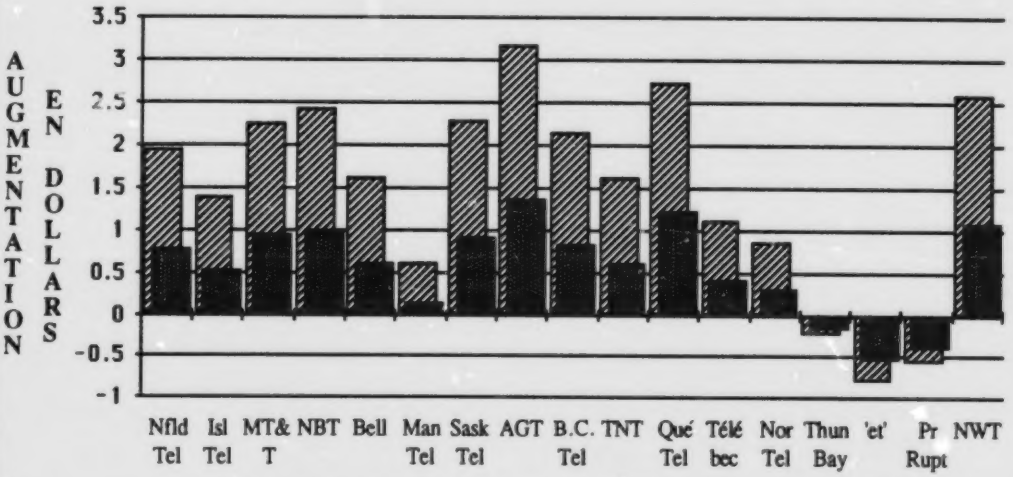
SOURCE: Peat Marwick, étude commandée par le Groupe de travail.

Graphique 6-5

Effets estimatifs de la concurrence des télécommunicateurs exploitant leurs propres installations sur les tarifs locaux, 1995*

Variations tarifaires du service de résidence





* Les variations tarifaires s'appliquent à 1995 et sont exprimées en dollars de 1995, selon les hypothèses qu'il y a concurrence à l'échelle nationale et que les variations de pourcentage sont les mêmes pour les tarifs du service d'affaires que pour ceux du service de résidence.

SOURCE: Peat Marwick, étude commandée par le Groupe de travail.

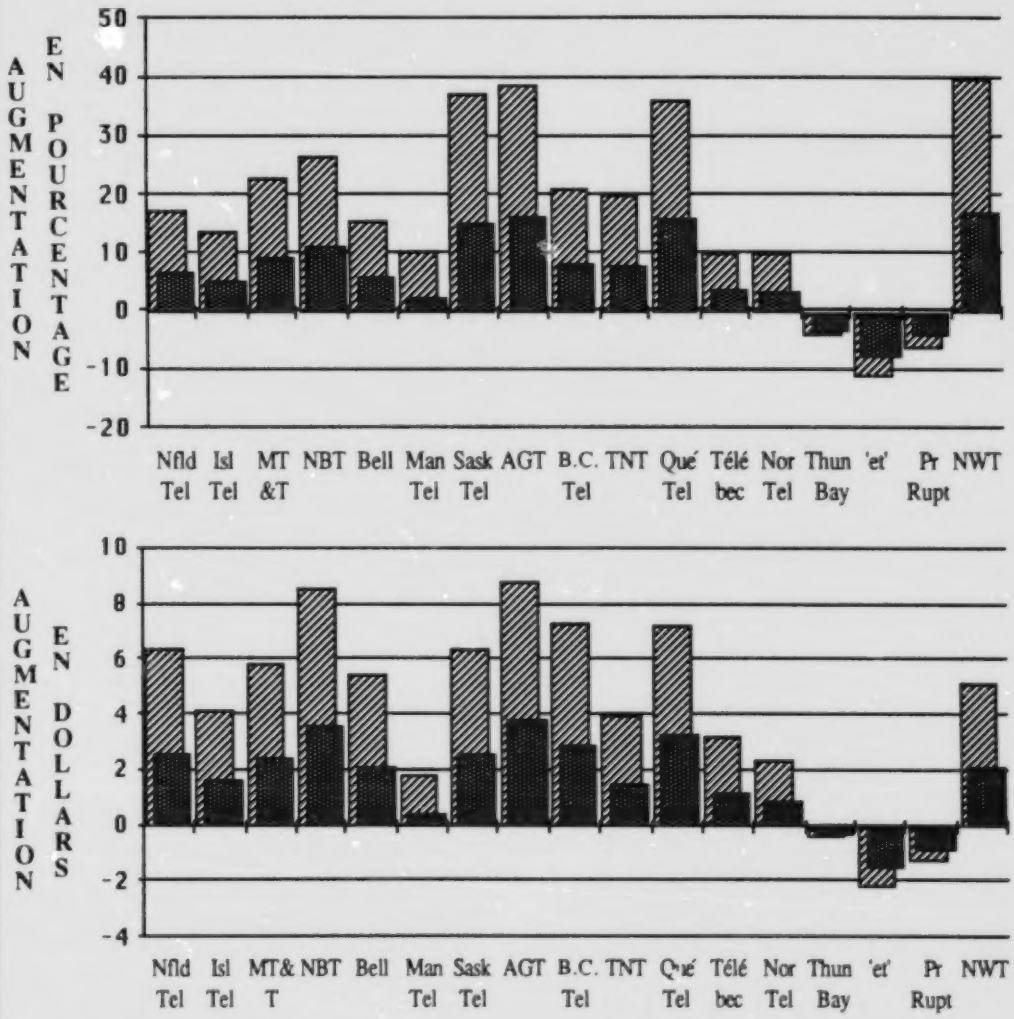
Variations des tarifs locaux intervenant dans les cas suivants :

- rabais de 25 % sur les prix/ 20 % de la part du marché
- rabais de 10 % sur les prix/ 10 % de la part du marché

Graphique 6-6

Effets estimatifs de la concurrence des télécommunicateurs exploitant leurs propres installations sur les tarifs locaux, 1995*

Variations tarifaires du service d'affaires



* Les variations tarifaires s'appliquent à 1995 et sont exprimées en dollars de 1995, selon les hypothèses qu'il y a concurrence à l'échelle nationale et que les variations de pourcentage sont les mêmes pour les tarifs du service d'affaires que pour ceux du service de résidence.

SOURCE: Peat Marwick, étude commandée par le Groupe de travail.

Variations des tarifs locaux intervenant dans les cas suivants :

rabais de 25 % sur les prix/ 20 % de la part du marché

rabais de 10 % sur les prix/ 10 % de la part du marché

TABLEAU 6-7

Estimations des contributions sur les revenus de l'interurbain, 1995

(selon les revenus après partage de Telecom Canada*)

	REVENUS PAR MINUTE	COÛTS PAR MINUTE	CONTRIBUTIONS	
			PAR MINUTE	%
COMPAGNIE				
Newfoundland Tel	0,638 $	0,230 $	0,408 $	64,0
Island Tel	0,512	0,162	0,350	68,2
MT&T	0,622	0,183	0,489	70,5
NBTel	0,458	0,123	0,335	73,1
Bell	0,396	0,124	0,272	68,6
Manitoba Tel	0,348	0,133	0,215	61,9
SaskTel	0,515	0,156	0,359	69,7
AGT	0,542	0,176	0,366	67,5
B.C. Tel	0,518	0,158	0,360	69,5
Moyenne	**0,440**	**0,140**	**0,300**	**68,2**
TYPE DE TRAFIC				
Intracompagnie	0,344	0,135	0,209	60,8
Avec une compagnie adjacente	0,541	0,158	0,383	70,8
Transcanadien	0,703	0,161	0,546	77,7
Local	-	-	-	1,9

* Ont été prises en considération les revenus partagés provenant des services de lignes directes interconnectées et des services de lignes hors circonscription. (Leur contribution est minime.)

SOURCE: Peat Marwick, étude commandée par le Groupe de travail.

ques 6-5 et 6-6 démontrent également que les compagnies de téléphone municipales connaîtraient une baisse des tarifs locaux provoquée par la concurrence. L'expert-conseil indique que cette situation résulte du fait que les paiements de contribution faits directement à ces compagnies de téléphone excéderaient les revenus qu'elles recevraient autrement d'autres compagnies de téléphone en vertu des procédures de partage en vigueur.

Dans le cas des compagnies de téléphone non membres de Telecom Canada pour lesquelles des données étaient disponibles, les résultats de la modélisation permettent de penser que ce sont sur les tarifs dans la zone de desserte de Norouestel que les répercussions seraient les plus importantes, du fait que sa contribution provenant des revenus interurbains est élevée. En pratique, cette compagnie de téléphone pourrait être d'autant plus vulnérable à la concurrence interurbaine que la base de sa clientèle est faible et que la majorité de ses revenus interurbains dépendent beaucoup plus d'un petit nombre de gros abonnés que ce n'est le cas pour les autres compagnies.

Quant aux entreprises concurrentes offrant le SICT/WATS à partir de leurs propres installations, l'exercice de modélisation a calculé, pour chaque scénario étudié, quel serait le paiement de contribution qui assurerait la viabilité financière du concurrent. Dans un scénario pancanadien, en supposant une part du marché de 20 % pour les concurrents et l'octroi d'un rabais de 25 % sur les prix, on prévoit que les entreprises concurrentes exploitant leurs propres installations enregistreraient un taux de rendement sur leur avoir propre de plus en plus élevé pour les années 7 à 15, et jusqu'à 33 % la dernière année. Les résultats obtenus par l'expert-conseil indiquent qu'une fois que le marché interurbain concurrentiel serait arrivé à maturité, les concurrents seraient en mesure de verser aux compagnies de téléphone des paiements de contribution plus élevés que ceux qui sont envisagés. En outre, les concurrents seraient en mesure de concurrencer les compagnies de téléphone, tout en consentant des rabais moins importants sur leurs tarifs. Ces deux phénomènes auraient pour effet de réduire le niveau des hausses des tarifs locaux imputable à l'introduction de la concurrence dans le marché du SICT/WATS.

Peat Marwick a procédé à une analyse des états de compte des abonnés pour déterminer lesquels, à la suite de la concurrence dans la prestation du service interurbain, recevraient une facture mensuelle totale plus basse. L'étude a été faite au moyen des données de facturation fournies par diverses compagnies de téléphone pour des mois-échantillons de 1986 et 1987. Les données portaient principalement sur les abonnés (petits, moyens et gros) des services de résidence et d'affaires. L'analyse reposait sur des données de facturation historiques et ne tenait pas compte des changements qui pourraient survenir à la suite de la concurrence - par exemple, un plus grand nombre d'appels par suite de tarifs interurbains plus bas.

Comme on l'a noté précédemment, l'exercice de modélisation partait de l'hypothèse que les répercussions financières de la concurrence dans la prestation du service interurbain sur les compagnies de téléphone entraînerait des variations des tarifs locaux pour tous les abonnés -- c'est-à-dire, des tarifs du service local généralement plus élevés. Ainsi, une fois la concurrence introduite et les

majorations des tarifs locaux absorbées, tous les abonnés pourraient économiser s'ils décidaient d'utiliser les services interurbains du concurrent. Toutefois, l'exercice de modélisation posait par hypothèse que le concurrent n'attirerait qu'un nombre limité d'abonnés; comme on l'a noté, le modèle suppose dans ce scénario que le concurrent n'accaparerait que 20 % du trafic interurbain des compagnies de téléphone (calculé en minutes de conversation). Si on compare les situations avant et après l'introduction de la concurrence dans le marché interurbain, les abonnés qui décident de ne pas changer de télécommunicateurs verraient leur état de compte augmenter au niveau du service local, ce qui ne serait pas compensé par des frais d'interurbain réduits. Les abonnés qui choisissent de changer pour le concurrent pourraient compenser, soit partiellement, soit entièrement, les hausses de tarifs locaux par des frais d'interurbain plus bas. Ainsi, selon leurs modes d'appels interurbains, certains abonnés ayant opté pour le concurrent verraient leur état de compte net baisser, tandis que ce ne serait pas le cas pour d'autres qui ne généreraient pas suffisamment de réductions de tarifs interurbains pour compenser les hausses de tarifs locaux.

D'après les données relatives à la facturation que les compagnies de téléphone ont fournies, l'expert-conseil a produit un jeu de tableaux du pourcentage de lignes d'accès aux services de résidence et d'affaires à l'égard duquel une économie de 10 % ou de 25% sur les appels interurbains l'emporterait sur la hausse estimative des tarifs locaux en vertu de chaque scénario. Les tableaux dressés par l'expert-conseil ont servi à produire un tableau sommaire (tableau 6-8) du nombre d'abonnés des services d'affaires et de résidence dans les diverses catégories qui obtiendraient des réductions nettes de leur état de compte mensuel dans un scénario en vertu duquel le concurrent offrirait un rabais de 25 % et obtiendrait 20 % du trafic interurbain de la compagnie de téléphone. Les données de ce tableau ont été établies en multipliant par 20 % les pourcentages des tableaux de l'expert-conseil.

En prenant comme exemple les chiffres de Bell Canada, l'expert-conseil estime que, pour n'importe lequel des 65 % d'abonnés urbains du service de résidence de cette compagnie, la réduction de 25 % des tarifs applicables aux appels interurbains pourrait contrebalancer la hausse estimative des tarifs locaux et réduire son état de compte mensuel net -- pourvu que le nombre total d'abonnés de la compagnie profitant des tarifs moins élevés ne dépasse pas 20 %. Selon l'hypothèse voulant que le concurrent puisse obtenir seulement 20 % du trafic dans ce scénario, et sous réserve qu'il s'agisse d'un échantillon représentatif de tous les abonnés de Bell Canada, seulement 65 % des 20 % obtiendraient une réduction de leur état de compte mensuel net. Ainsi, 13 % (0,2 x 65) verraient diminuer leur état de compte mensuel net, tandis que la facture des autres abonnés augmenterait.

Le tableau indique également que le pourcentage d'abonnés dont l'état de compte baisserait varie d'une compagnie à l'autre et selon le genre d'abonnés. Les différences reflètent la nature des factures interurbaines et locales en vigueur (1986 ou 1987). En général, un pourcentage plus élevé d'abonnés du service de résidence par rapport à ceux du service d'affaires verraient leur état de compte baisser.

TABLEAU 6-8

Pourcentage des abonnés qui verraient leurs factures baisser suite à la concurrence*

COMPAGNIE	SERVICE D'AFFAIRES			SERVICE DE RÉSIDENCE	
	PETITE ENTREPRISE	MOYENNE ENTREPRISE	GRANDE ENTREPRISE	MILIEU URBAIN	MILIEU RURAL
Bell Canada	8,7 %	12,1 %	9,6 %	13,0 %	15,3 %
Island Tel	10,7	16,9	8,4	15,0	14,0
MT&T	7,9	14,3	13,2	13,5	13,4
NBTel	8,6	10,7	6,8	13,6	11,2
B.C. Tel	10,0	12,2	8,2	14,8	18,1
Terra Nova	12,6	--	8,0	16,7	17,4
Norouestel	13,8 (ensemble des abonnés du serv. d'affaires)			17,1 (ensemble des abonnés du serv. de résidence)	
AGT	8,2 (ensemble des abonnés)				

* Le scénario pose par hypothèse la concurrence partout au Canada, le statu quo dans les tarifs, un rabais de 25 % des tarifs par les concurrents et une perte de marché de 20 % pour les compagnies de téléphone. Les chiffres de ce tableau proviennent des tableaux de Peat Marwick relatifs aux lignes d'accès dont le taux d'utilisation de l'interurbain dépasse le point de rentabilité de la facturation (chapitre IV du rapport de Peat Marwick). Par exemple, l'expert-conseil estime qu'en théorie, une économie de 25 % sur les appels interurbains pour n'importe lesquels des 65 % d'abonnés urbains du service de résidence de Bell Canada ferait plus que compenser la hausse estimative des tarifs locaux, pourvu que, dans l'ensemble, pas plus de 20 % du trafic ne passe à un service d'un concurrent. Dès que le pourcentage de perte de trafic pour la compagnie de téléphone dépasse 20 %, les répercussions estimatives sur les tarifs locaux augmentent. Toutefois, en multipliant le pourcentage calculé au départ (65 %) par la perte de marché de 20 % sur laquelle il reposait, on obtient une estimation de 13 % de la masse d'abonnés qui économiseraient suffisamment sur les appels interurbains pour compenser la hausse des tarifs locaux, si un éventail moyen d'abonnés optait pour le nouveau service. Le reste des abonnés subirait des états de compte mensuels nets plus élevés, comme en témoigne ce tableau.

Diverses considérations pourraient changer les pourcentages d'abonnés qui verraient leur état de compte baisser avec la concurrence dans la prestation du service interurbain. L'analyse susmentionnée reposait sur l'hypothèse que la probabilité qu'un abonné passe au concurrent ne dépendrait pas de l'importance de l'état de son état de compte mensuel. Si cette hypothèse était modifiée -- par exemple, si seuls les plus gros abonnés du service interurbain passaient au concurrent -- alors le pourcentage des abonnés urbains du service de résidence qui verraient leur état de compte diminuer tomberait sous la barre des 13 % dans l'exemple cité. Peat Marwick indique que, dans ce cas extrême, seuls 8 % environ du total des abonnés du service de résidence et environ 5 % du total des abonnés du service d'affaires verraient leur facture diminuer. Ainsi, dans ce scénario de part du marché de 20 %, le pourcentage des abonnés de Bell Canada dont la facture baisserait avec la concurrence dans la prestation du service interurbain varierait entre 8 % et 13 % pour les abonnés urbains du service de résidence et entre 5 % et 9,6 % pour les grosses entreprises abonnées au service d'affaires. Des calculs semblables pourraient être faits pour chaque catégorie d'abonnés de Bell Canada ainsi que pour ceux des autres compagnies de téléphone qui ont soumis des données de facturation.

En outre, ce ne sont pas tous les abonnés des diverses régions géographiques du Canada qui disposeraient de la même disponibilité des services de concurrents. Les pourcentages d'abonnés dans les zones rurales qui pourraient éventuellement bénéficier d'une concurrence dans la prestation du service interurbain pourraient même être inférieurs aux chiffres cités par Peat Marwick tandis que, dans les centres urbains, c'est le contraire qui pourrait se produire.

Pour terminer, il faut noter que cette analyse de facturation ne s'applique qu'au scénario décrit ci-dessus et pour les compagnies qui ont soumis des données de facturation. D'autres scénarios et des données provenant d'autres compagnies pourraient produire des résultats différents. Par exemple, des changements de productivité associés à l'introduction de la concurrence dans la prestation du service interurbain auraient pour effet, soit d'augmenter, soit de réduire ces répercussions sur les tarifs locaux avec changements correspondants aux résultats de l'analyse.

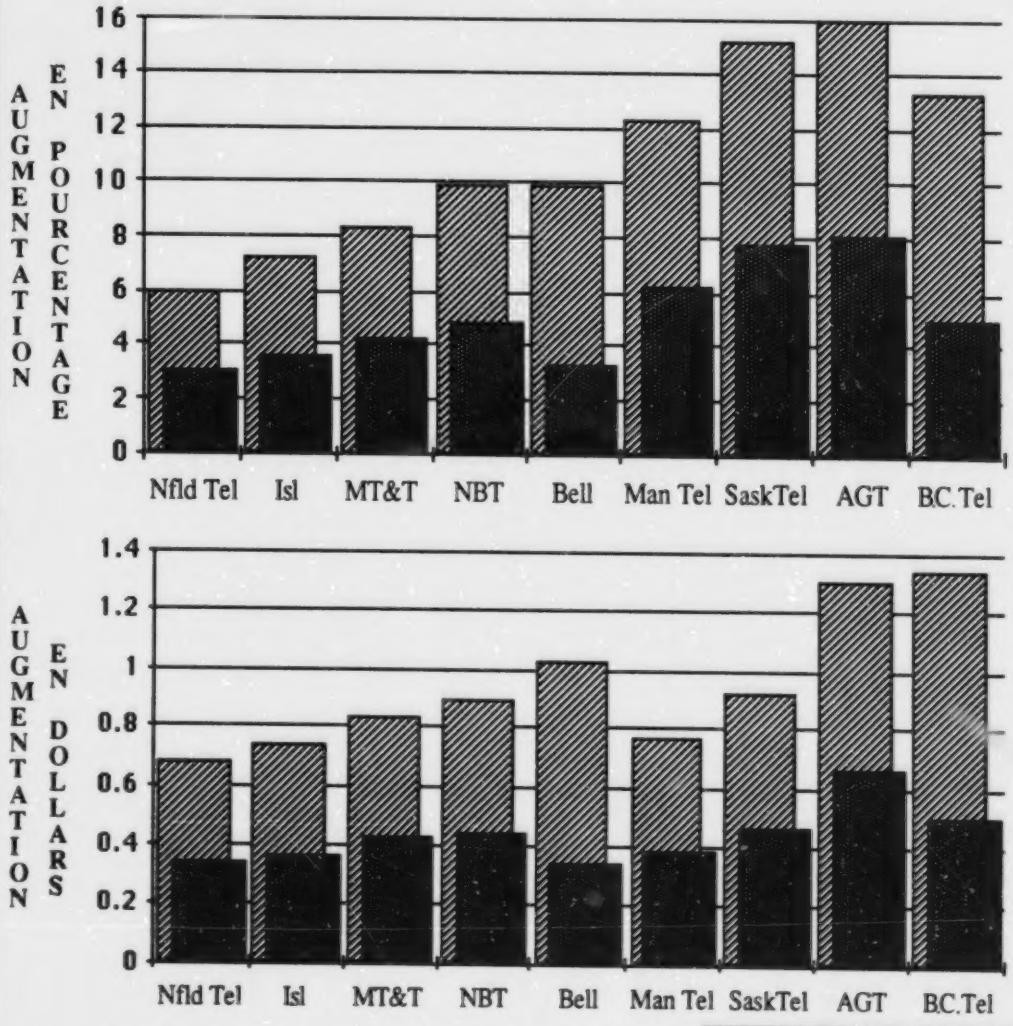
6.3.2 Concurrence des télécommunicateurs exploitant leurs propres installations dans les seules zones de desserte de Bell Canada et de B.C. Tel

Les résultats de l'exercice de modélisation indiquent que l'introduction de la concurrence dans la prestation du service interurbain dans et entre les seules zones de desserte de Bell Canada et de B.C. Tel entraînerait pour toutes les compagnies membres de Telecom Canada un manque à gagner et des hausses des tarifs locaux (voir graphiques 6-9 et 6-10). Cela tient au fait que les revenus que la concurrence s'est appropriée et qui proviennent du trafic interurbain jusque-là acheminé par Telecom Canada ne pourraient plus être partagés comme ils l'étaient jusque-là entre les compagnies membres, en vertu du PPR. Si Bell et B.C. Tel conservaient les paiements de contribution des concurrents, Peat Marwick estime que les hausses des tarifs locaux pour les abonnés du service de résidence se situeraient entre 0,68 $ (soit 6 %) dans la zone de desserte de Newfoundland

Graphique 6-9

Effets estimatifs au niveau des tarifs locaux de la concurrence des télécommunicateurs exploitant leurs propres installations dans les seules zones de desserte de Bell Canada et de la B.C. Tel, 1995*

Variations tarifaires du service de résidence



Variations des tarifs locaux intervenant dans les cas suivants :

- rabais de 25 % sur les prix/ 20 % de la part du marché
- rabais de 10 % sur les prix/ 10 % de la part du marché

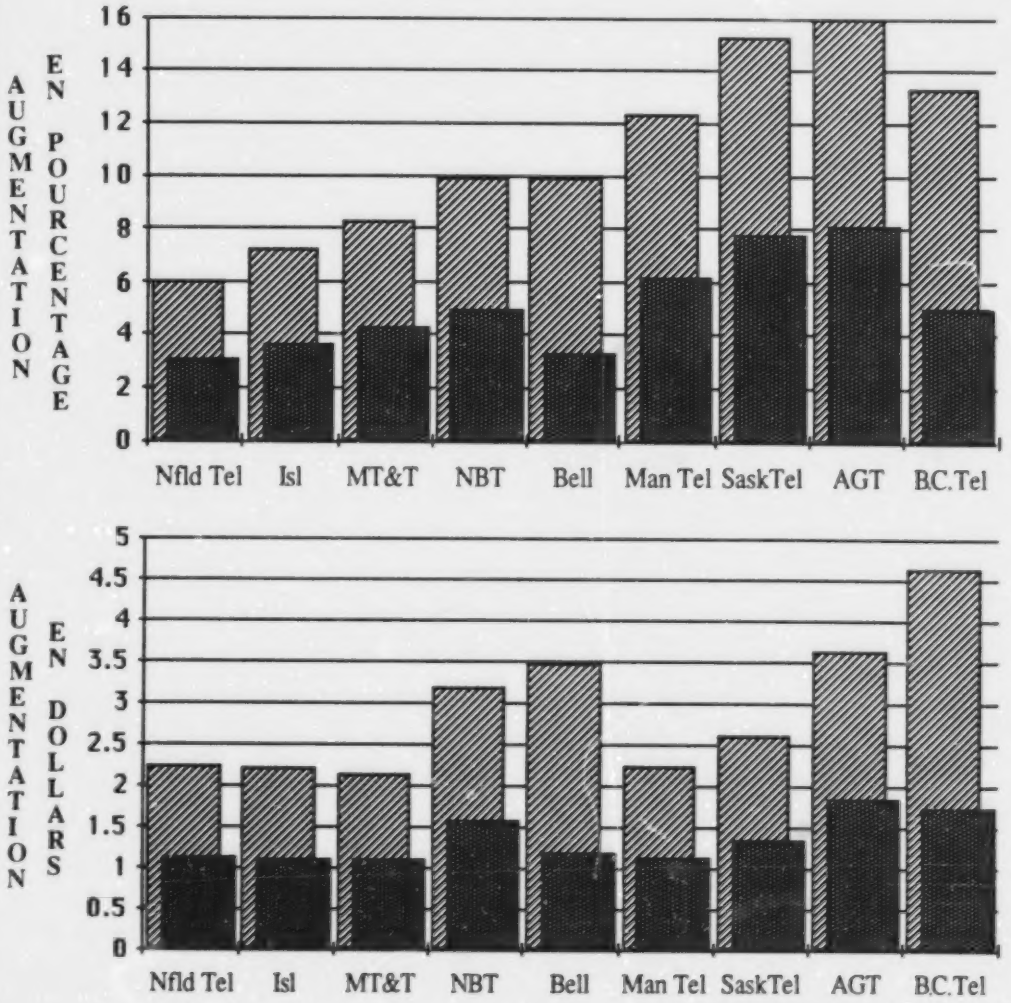
* Les variations tarifaires s'appliquent à 1995 et sont exprimées en dollars de 1995, selon l'hypothèse que les variations de pourcentage sont lesmêmes pour les tarifs du service d'affaires que pour ceux du service de résidence.

SOURCE: Peat Marwick, étude commandée par le Groupe de travail.

Graphique 6-10

Effets estimatifs au niveau des tarifs locaux de la concurrence des télécommunicateurs exploitant leurs propres installations dans les seules zones de desserte de Bell Canada et de la B.C. Tel, 1995*

Variations tarifaires du service d'affaires



* Les variations tarifaires s'appliquent à 1995 et sont exprimées en dollars de 1995, selon l'hypothèse que les variations de pourcentage sont les mêmes pour les tarifs du service d'affaires que pour ceux du service de résidence.

SOURCE: Peat Marwick, étude commandée par le Groupe de travail.

Variations des tarifs locaux intervenant dans les cas suivants :

- rabais de 25 % sur les prix/ 20 % de la part du marché
- rabais de 10 % sur les prix/ 10 % de la part du marché

Tel et 1,35 $ (soit 13,4 %) sur le territoire de B.C. Tel, dans un scénario de 20 % de part du marché pour la concurrence et de 25 % de rabais sur les prix. Autrement dit, selon ces hypothèses, les augmentations de tarifs locaux requises seraient du même ordre, que la concurrence soit permise ou non par telle ou telle juridiction. D'après les projections de l'expert-conseil, si les paiements de contribution attribuables au trafic de Telecom Canada étaient inclus dans le total de ses revenus et partagés entre les compagnies membres, celles qui opèrent dans une zone où la concurrence n'est pas autorisée auraient besoin de hausses moins élevées des tarifs locaux, s'il en est. Par contre, les hausses des tarifs locaux seraient plus marquées pour les abonnés de Bell Canada et de B.C. Tel.

6.3.3 Concurrence des revendeurs

L'étude de Peat Marwick estime que, pour les services de résidence et d'affaires des compagnies membres de Telecom Canada, les hausses des tarifs locaux mensuels, dans le scénario de concurrence des revendeurs pancanadienne des revendeurs, seraient dans l'ensemble deux fois plus élevées que celles qui interviendraient dans le scénario de concurrence entre des télécommunicateurs exploitant leurs propres installations (voir graphiques 6-11 et 6-12). L'expert-conseil déclare qu'en raison de l'échelle plus modeste de leurs opérations, les revendeurs ne seraient pas en mesure d'exploiter pleinement certains progrès technologiques, notamment certaines techniques de concentration du trafic, dont pourraient se prévaloir les compagnies de téléphone et les concurrents exploitant leurs propres installations. Par conséquent, on pourrait s'attendre à ce que les coûts de la prestation du service interurbain soient plus élevés pour les revendeurs. Ainsi pour l'un ou l'autre des divers scénarios de concurrence envisagés, les revendeurs auraient les moyens de faire une contribution moindre que les concurrents exploitant leurs propres installations, avec le résultat que les hausses des tarifs locaux en résultant devraient être plus fortes. Pour toutes ces raisons, l'expert-conseil fait valoir que la concurrence des revendeurs est moins efficiente, au plan économique, que la concurrence des télécommunicateurs exploitant leurs propres installations.

Pour finir, l'expert-conseil envisage les répercussions financières de la concurrence pour chaque scénario de concurrence pancanadienne, quand 25 % des services concurrentiels sont assurés par des revendeurs et 75 % par des télécommunicateurs exploitant leurs propres installations. Comme on pouvait s'y attendre, les hausses projetées des tarifs locaux mensuels se situeraient à mi-chemin des résultats obtenus dans le scénario de concurrence des télécommunicateurs exploitant leurs propres installations, d'une part, et dans le scénario de concurrence des revendeurs, d'autre part (voir graphiques 6-13 et 6-14).

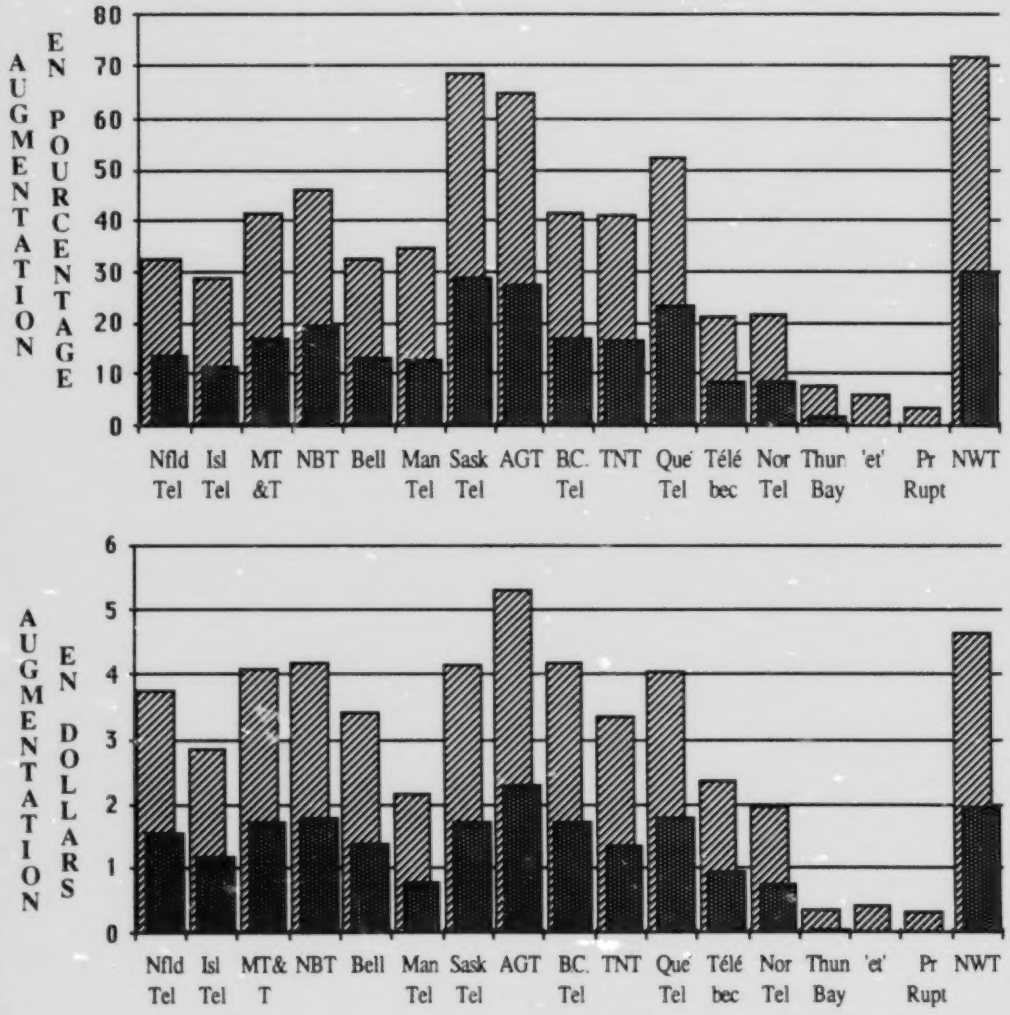
6.3.4 Impact du rééquilibrage partiel des tarifs

Peat Marwick s'est également penchée sur les répercussions de la concurrence, dans un contexte de rééquilibrage partiel des tarifs locaux et interurbains. L'expert-conseil est parti de l'hypothèse que les hausses des tarifs locaux induites par le rééquilibrage seraient absorbées par les abonnés en 1989. L'en-

Graphique 6-11

Effets estimatifs au niveau des tarifs locaux de la concurrence des revendeurs, 1995*

Variations tarifaires du service de résidence



* Les variations tarifaires s'appliquent à 1995 et sont exprimées en dollars de 1995, selon les hypothèses qu'il y a concurrence à l'échelle nationale et que les variations de pourcentage sont les mêmes pour les tarifs du service d'affaires que pour ceux du service de résidence.

SOURCE: Peat Marwick, étude commandée par le Groupe de travail.

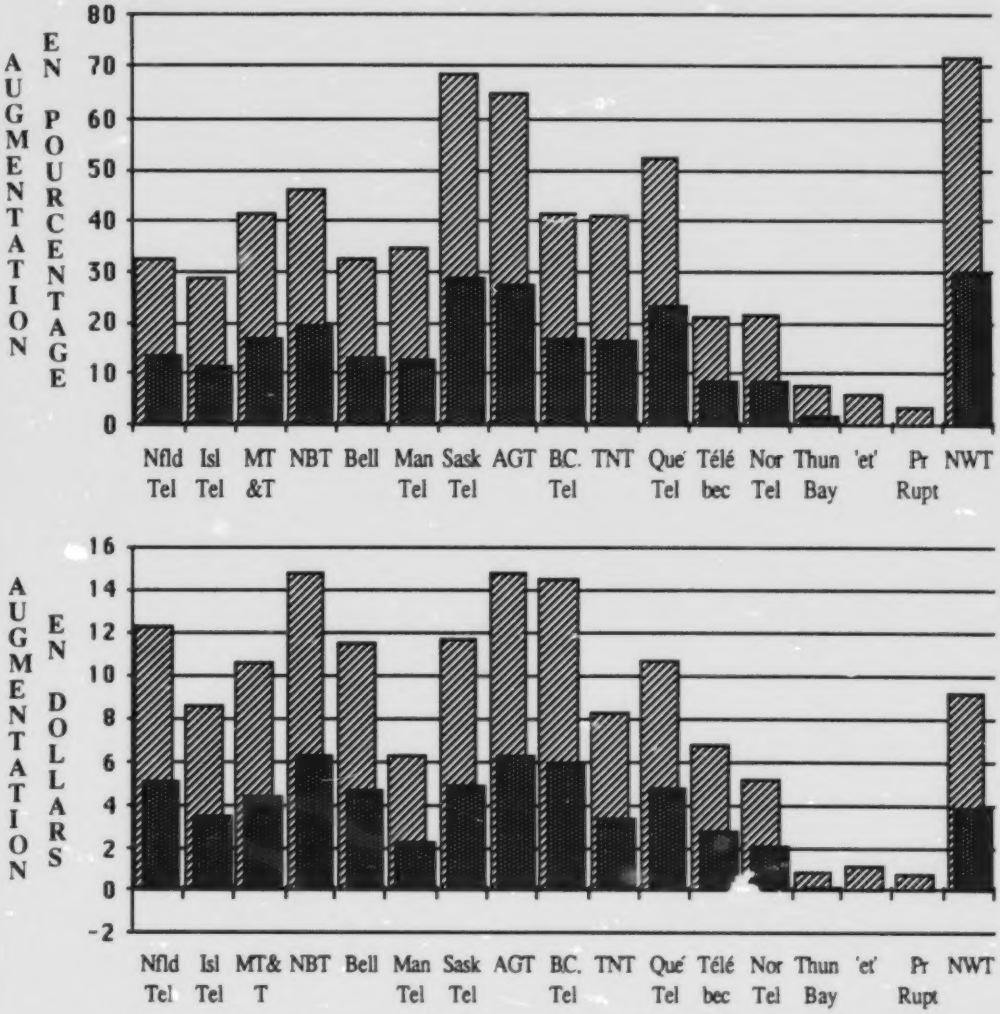
Variations des tarifs locaux intervenant dans les cas suivants :

- rabais de 25 % sur les prix/ 20 % de la part du marché
- rabais de 10 % sur les prix/ 10 % de la part du marché

Graphique 6-12

Effets estimatifs au niveau des tarifs locaux de la concurrence des revendeurs, 1995*

Variations tarifaires du service d'affaires



* Les variations tarifaires s'appliquent à 1995 et sont exprimées en dollars de 1995, selon les hypothèses qu'il y a concurrence à l'échelle nationale et que les variations de pourcentage sont les mêmes pour les tarifs du service d'affaires que pour ceux du service de résidence.

SOURCE: Peat Marwick, étude commandée par le Groupe de travail.

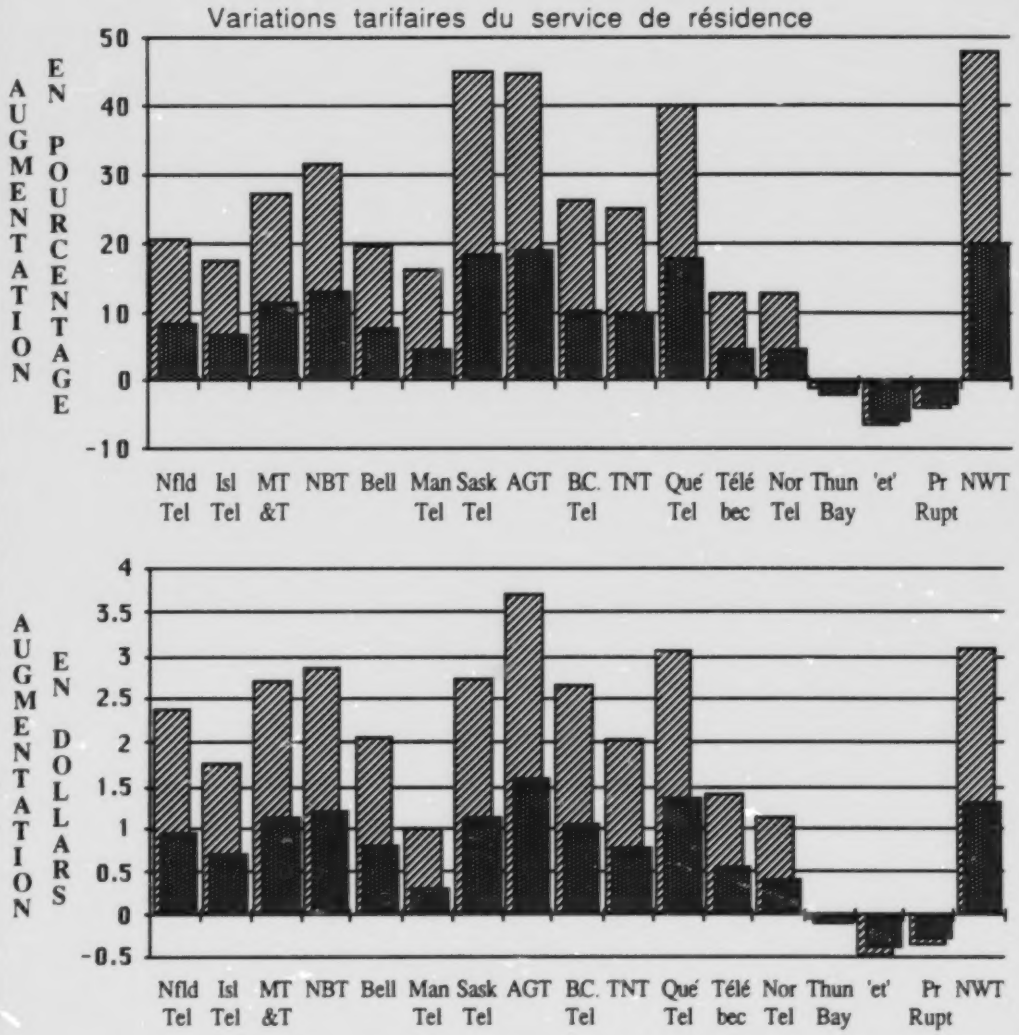
Variations des tarifs locaux intervenant dans les cas suivants :

rabais de 25 % sur les prix/ 20 % de la part du marché

rabais de 10 % sur les prix/ 10 % de la part du marché

Graphique 6-13

Effets estimatifs au niveau des tarifs locaux de la concurrence des télécommunicateurs exploitant leurs propres installations et de la concurrence des revendeurs, 1995*



* Les variations tarifaires s'appliquent à 1995 et sont exprimées en dollars de 1995, selon les hypothèses qu'il y a concurrence à l'échelle nationale et que les variations de pourcentage sont les mêmes pour les tarifs du service d'affaires que pour ceux du service de résidence.

SOURCE: Peat Marwick, étude commandée par le Groupe de travail.

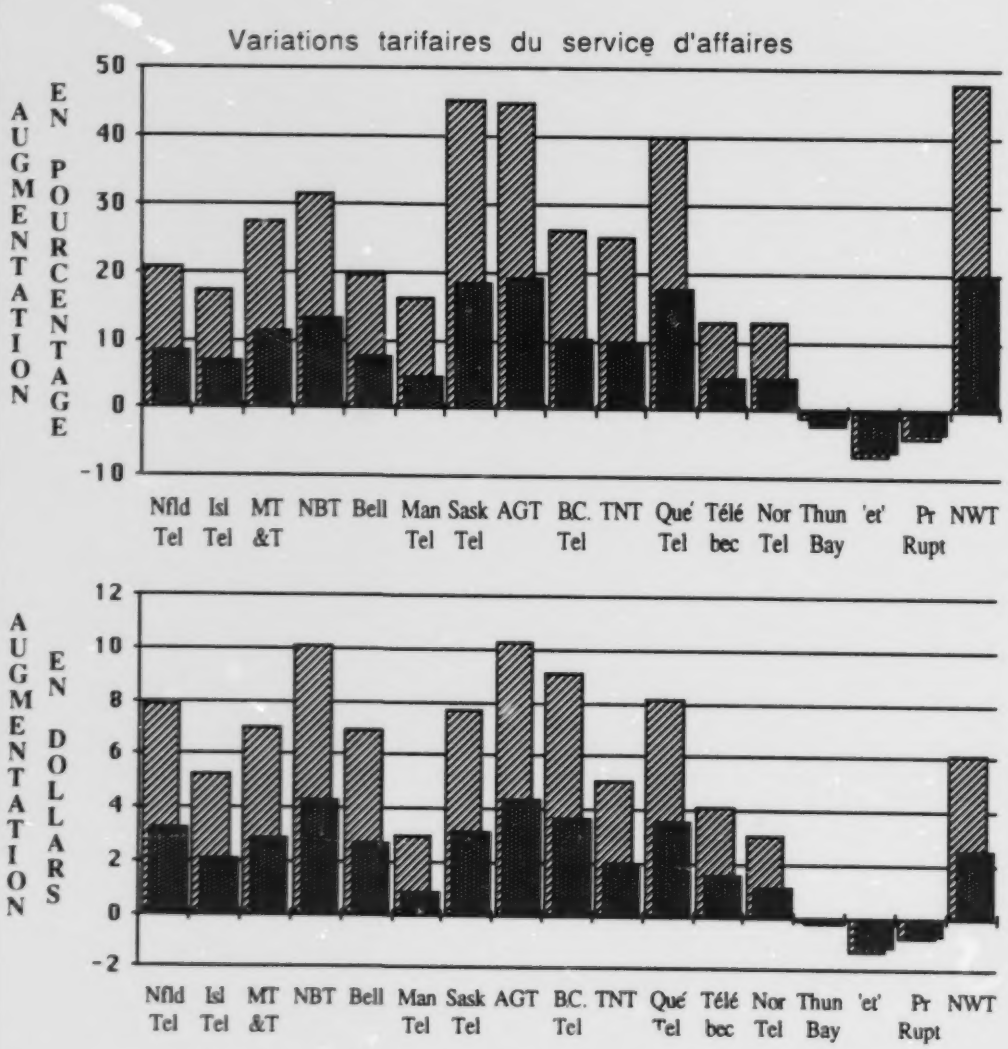
Variations des tarifs locaux intervenant dans les cas suivants :

rabais de 25 % sur les prix/ 20 % de la part du marché ■

rabais de 10 % sur les prix/ 10 % de la part du marché ■

Graphique 6-14

Effets estimatifs au niveau des tarifs locaux de la concurrence des télécommunicateurs exploitant leurs propres installations et de la concurrence des revendeurs, 1995*



* Les variations tarifaires s'appliquent à 1995 et sont exprimées en dollars de 1995, selon les hypothèses qu'il y a concurrence à l'échelle nationale et que les variations de pourcentage sont les mêmes pour les tarifs du service d'affaires que pour ceux du service de résidence.

SOURCE: Peat Marwick, étude commandée par le Groupe de travail.

Variations des tarifs locaux intervenant dans les cas suivants :

rabais de 25 % sur les prix/ 20 % de la part du marché ■

rabais de 10 % sur les prix/ 10 % de la part du marché ■

trée en concurrence se ferait donc la même année, dans un contexte de de tarif déjà rééquilibrés.

Les résultats de cette analyse indiquent que le rééquilibrage partiel des tarifs des compagnies de téléphone (tel qu'il est décrit plus haut) aurait très peu d'effet sur la viabilité financière des fournisseurs de services interurbains, à condition qu'ils soient autorisés à verser des paiements de contribution moins élevés, en reconnaissance du fait que les contributions provenant des services interurbains des compagnies de téléphone sont également moins élevées dans pareil contexte. Dans l'ensemble, les variations projetées des tarifs locaux mensuels dues à la concurrence dans la prestation du service interurbain seront moins élevées que s'il n'y avait pas eu rééquilibrage. (Il va sans dire que, si l'on considère ensemble les répercussions de la concurrence et du rééquilibrage, les niveaux des tarifs locaux obtenus sont naturellement considérablement plus élevés.) Quoi qu'il en soit, un concurrent pourrait constater qu'il est plus difficile d'accaparer une part du marché dans un contexte de tarifs déjà rééquilibrés que dans un contexte de statu quo tarifaire, dans la mesure où il serait obligé de consentir des rabais par rapport à des niveaux tarifaires déjà inférieurs et où, au même pourcentage de rabais, correspondrait un montant inférieur en dollars.

6.3.5 Autres résultats

Cette section présente les résultats de plusieurs tests de sensibilité ayant servi à évaluer les conséquences de la modification de certaines des hypothèses de base retenues dans les modèles de Peat Marwick. On a testé les répercussions possibles au niveau des tarifs locaux d'un certain nombre de paramètres constants, revêtant un certain degré d'incertitude, notamment : l'élasticité de la demande par rapport aux prix, l'élasticité par rapport aux investissements, les modes d'accès et les taux de rendement internes des concurrents. Dans l'ensemble, les répercussions sont relativement modestes, pour ce qui est des valeurs extrêmes appliquées, puisqu'elles ne présentent souvent que quelques cents de différence par rapport au scénario de référence. Le tableau 6-15 en fournit la preuve pour ce qui est de l'élasticité de la demande par rapport aux prix. Pour tester l'élasticité de la demande du service téléphonique interurbain public par rapport aux prix, Peat Marwick a utilisé les valeurs extrêmes obtenues par Globerman and Associates (section 4.3). L'analyse de sensibilité intègre les tarifs projetés du service de résidence appliqués par un concurrent exploitant ses propres installations à l'échelle du Canada tout entier, avec un rabais de prix de 25 %. Même avec un taux de pénétration du marché par le concurrent de 20 %, la différence de majoration des tarifs locaux par rapport au scénario de référence, dans le cas où statu quo tarifaire, n'est que de 0,15 $ de plus pour les valeurs d'élasticité les plus faibles et de 0,22 $ de moins pour les valeurs plus élevées. Avec un rééquilibrage partiel des tarifs, ces chiffres seraient de 0,01 $ et de 0,03 $ plus bas, respectivement.

Pour évaluer les effets des valeurs d'élasticité des prix plus élevées (-1,3) et moins élevées (-0,4) que celles qui sont prévues dans l'étude Globerman, Peat Marwick a aussi projeté des niveaux tarifaires pour 1995 en vertu des scénarios suivants : a) aucune entrée en concurrence avec les rapports existants entre les tarifs; b) rééquilibrage partiel des tarifs (tel que discuté ci-dessus); et c) régime de concurrence dans la prestation du service interurbain en vertu duquel un ra-

TABLEAU 6-15

Élasticités de la demande par rapport au prix et effets de la concurrence au niveau de l'interurbain sur les tarifs locaux

	FAIBLE	CAS DE BASE	ÉLEVÉE
(A) ÉLASTICITÉS			
Trafic intracompagnie	-0,50	-0,60	-0,70
Trafic intercompagnies	-0,55	-0,70	-0,85
Trafic Canada-É.-U.	-0,65	-0,825	-1,00
Trafic Canada-outre-mer	-0,60	-0,90	-1,20
(B) AUGMENTATION MOYENNE DES TARIFS RÉSIDENTIELS PROVOQUÉE PAR LA CONCURRENCE (EN DOLLARS ET PAR MOIS)*			
Statu quo tarifaire			
Tarif moyen des appels locaux de départ	10,35 $	9,78 $	9,09 $
Hausse des tarifs à un taux de pénétration du marché de 10 %	1,11	1,05	0,95
Hausse des tarifs à un taux de pénétration du marché de 20 %	1,98	1,83	1,61
Rééquilibrage des tarifs			
Tarif moyen des appels locaux de départ	16,77 $	15,72 $	14,50 $
Hausse des tarifs à un taux de pénétration du marché de 10 %	1,05	1,07	1,08
Hausse des tarifs à un taux de pénétration du marché de 20 %	1,86	1,87	1,84

* Selon l'hypothèse qu'il y a concurrence à l'échelle nationale avec un rabais de 25 % des tarifs par les concurrents.

SOURCE: Peat Marwick, étude commandée par le Groupe de travail.

bais de 25 % serait consenti avec une pénétration du marché de 20 %. Peat Marwick a estimé que, sans concurrence, si les tendances de croissance passées sont extrapolées, une estimation d'une élasticité des prix de −1,3 produirait des tarifs du service téléphonique local sensiblement plus élevés pour 1995 que dans le scénario de référence. L'expert-conseil indique qu'en vertu d'hypothèses de valeurs élevées de l'élasticité des prix, les tendances résiduelles (autres que de prix), qui expliquent généralement une grande partie de la croissance du trafic, étaient plus basses. Pour cette raison, la croissance future prévue du trafic était moindre qu'avec des valeurs plus faibles de l'élasticité des prix. En conséquence, avec une élasticité plus élevées, c'est par voie de tarifs locaux plus élevés qu'il faudrait recouvrer une plus forte proportion des besoins en revenus des compagnies de téléphone. En terminant, Peat Marwick a estimé qu'avec le statu quo au niveau tarifaire ou un rééquilibrage partiel des tarifs, des valeurs plus grandes de l'élasticité entraîneraient probablement des augmentations plus faibles des tarifs locaux avec la concurrence. L'inverse serait vrai pour la valeur d'élasticité faible (−0,4).

Des estimations de l'élasticité de l'investissement de 0,8 plutôt que de 0,9 pour les services locaux et de 0,4 plutôt que de 0,6 pour les services interurbains feraient augmenter de 0,17 $ par mois les répercussions sur les tarifs du service local de résidence sans rééquilibrage dans une situation de part du marché du concurrent de 25 %. De même, supposer des modes différents d'accès modifierait les répercussions sur les tarifs du service local d'environ 0,08 $ pour un large éventail de scénarios.

Peat Marwick a également testé l'hypothèse selon laquelle le taux de rendement interne du télécommunicateur exploitant ses propres installations passerait de 13 % (scénario de référence) à 10 % sur un horizon de 15 ans au lieu de 10. Le résultat immédiat était que le concurrent pouvait se permettre de faire une contribution plus forte. Le tableau 6-16 illustre les effets sur les tarifs du service local de résidence. Avec une pénétration du marché par le concurrent de 20 %, par exemple, l'impact de la concurrence sur les tarifs locaux serait réduit de 0,13 $.

De plus, dans chacun des scénarios modelés par Peat Marwick, on a calculé le seuil d'amélioration de la productivité pour les membres de Telecom Canada. Il s'agit de l'amélioration de la productivité ou d'autres mesures de réductions des coûts dont chaque compagnie membre aurait besoin pour compenser exactement l'impact de la concurrence sur les revenus de sorte qu'aucune modification des tarifs locaux ne s'impose. Ces améliorations s'ajoutent aux gains de productivité annuels de 5 % qui, selon le modèle, se produiraient sans égard au fait que la concurrence soit permise ou non. On se rappellera (section 4.2.2) que la preuve empirique n'était pas concluante quant aux répercussions de la concurrence sur la productivité des compagnies de téléphone. Comme alternative, le changement de productivité compensatoire nécessaire pour éviter tout impact sur les tarifs locaux a été calculé à des fins de référence ultérieure. Le tableau 6-17 déploie l'éventail des valeurs pour la concurrence de télécommunicateurs exploitant leurs propres installations avec un prix escompté de 25 % et une part du marché de 20 % pour le concurrent. Pour éviter des augmentations des tarifs locaux, il faudrait

TABLEAU 6-16

Taux de rendement des concurrents et effets de la concurrence au niveau de l'interurbain sur les services locaux*

SCÉNARIO	PAIEMENT DE CONTRIBUTION** (en dollars de 1995 et par minute)		HAUSSE DES TARIFS LOCAUX DU SERVICE DE RÉSIDENCE (en dollars de 1995 et par mois)	
	Taux de rendement de 13 %	Taux de rendement de 10 %	Taux de rendement de 13 %	Taux de rendement de 10 %
Taux de pénétration du marché de 10 %	0,0725 $	0,0778 $	1,05 $	0,95 $
Taux de pénétration du marché de 20 %	0,0792 $	0,0830 $	1,83 $	1,70 $

* Selon l'hypothèse qu'il y a concurrence à l'échelle nationale avec un rabais de 25 % des tarifs par les concurrents.

** Les paiements de contribution sont faits deux fois : au départ et à l'arrivée de l'appel.

SOURCE: Peat Marwick, étude commandée par le Groupe de travail.

TABLEAU 6-17

Améliorations de la productivité ou réductions des coûts nécessaires pour compenser les incidences de la concurrence*

COMPAGNIE	POINT MORT DES AMÉLIORATIONS DE LA PRODUCTIVITÉ OU DES RÉDUCTIONS DE COÛTS** (en pourcentage)
Nfld Tel	3,53 %
Island Tel	3,43
MT&T	4,20
NBTel	4,63
Bell Canada	3,15
Manitoba Tel	1,39
SaskTel	3,95
AGT	4,83
B.C. Tel	4,01

* Télécommunicateur exploitant ses propres installations; concurrence à l'échelle nationale avec 25 % de rabais sur les tarifs et 20 % de la part du marché.

** Pourcentage des dépenses totales d'exploitation de la compagnie de téléphone.

SOURCE: Peat Marwick, étude commandée par le Groupe de travail.

que diverses compagnies membres de Télécom Canada améliorent leur productivité ou réduisent leurs coûts entre 1,39 % et 4,83 % du total des coûts, d'ici 1995.

Les experts de Peat Marwick ont également testé le modèle pour évaluer les effets que produirait le fait de stimuler l'ensemble du marché du service téléphonique interurbain public.[115] Une étude américaine révèle, par exemple, que la publicité peut dans une certaine mesure produire ce résultat.[116] Peat Marwick note que la stimulation des revenus peut également résulter de la disponibilité d'un grand nombre de mécanismes de tarification, comme ce serait le cas dans un régime concurrentiel.[117] Parce qu'il était impossible d'établir un chiffre précis par lequel le marché serait stimulé par ces facteurs, le Groupe de travail a décidé de procéder à l'établissement des répercussions sur les revenus d'une stimulation du volume de 1 %, 3 % et 5 %, respectivement. On n'a pas supposé de coûts additionnels de publicité à cette fin, bien que l'on ait généralement supposé que les dépenses de publicité seraient plus élevées dans les scénarios de concurrence que dans ceux de monopole. Les résultats obtenus pour le scénario dans lequel les compagnies de téléphone perdent 20 % de leur marché interurbain et le concurrent offre des rabais de 25 % sur les tarifs interurbains révèlent que chaque point à la hausse du pourcentage de la stimulation du marché interurbain réduirait les tarifs mensuels moyens du service de résidence en 1995 de 0,22 $ environ (en dollars de 1995) pour les membres de Telecom Canada et d'environ 0,14 $ pour les compagnies de téléphone qui ne sont pas membres de Telecom Canada.

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[115] L'étude de Globerman Associates commandée par le Groupe de travail, p. 31, conclut que l'entrée en concurrence n'aurait pas de répercussions importantes sur l'élasticité de la demande par rapport aux prix et, si elle en avait, elle pourrait la réduire légèrement.

[116] James M. Griffin, "The Welfare Implications of Externalities and Price Elacticities for Telecommunications Pricing," The Review of Economics and Statistics, vol. 64, nº 1, 1982, pp. 59-66. L'étude a utilisé des données trimestrielles interurbaines regroupées (1966 à 1978) pour les compagnies de téléphone de cinq États du sud-ouest dans des équations microéconomiques et a démontré que la publicité donnait lieu à des revenus positifs nets. Ce résultat était valable pour les compagnies et les périodes étudiées, mais l'auteur indique que, même si le rendement diminue par suite de dépenses publicitaires accrues, des revenus positifs nets peuvent être réalisés tant que les coûts marginaux n'égalent pas les revenus marginaux.

[117] Peat Marwick indique que la stimulation du marché à partir de mécanismes de tarification est survenue, par exemple, dans le transport aérien lorsque les tarifs ont été déréglementés et que les compagnies aériennes ont été en mesure d'introduire une grande variété de mécanismes de rabais. L'étude Economics and Technology commandée par le Groupe de travail révèle également (comme il en est question à la section 4.1.1) que de nombreux mécanismes de tarification ont été élaborés aux États-Unis à la suite de la concurrence dans la prestation du service interurbain.

Peat Marwick a également envisagé la possibilité que les concurrents ne paient aucune contribution. Dans ces conditions, on peut supposer que toutes les répercussions de la concurrence dans la prestation du service interurbain au niveau des tarifs locaux seraient alors entièrement absorbées par les abonnés des compagnies de téléphone, d'où des hausses beaucoup plus marquées des tarifs locaux. Cela étant, les concurrents seraient en mesure d'offrir des rabais substantiels sur les tarifs. Par exemple, un télécommunicateur exploitant ses propres installations et détenant une part de 20 % du marché pourrait offrir jusqu'à 65 % de rabais. Avec des rabais de cet ordre, il est probable que l'entreprise concurrente enregistrerait des gains substantiels, en raison de la stimulation du trafic. Cependant, ce scénario est quelque peu irréaliste et il n'a donc pas été analysé plus à fond.

6.4 Incidences interjuridictionnelles de la concurrence

L'analyse de la concurrence dans la prestation du service téléphonique interurbain public au Canada effectuée par Peat Marwick indique que chacun des scénarios envisagés s'accompagne d'un certain nombre d'incidences interjuridictionnelles. Que la concurrence intervienne dans une juridiction seulement ou dans deux juridictions à la fois, ses incidences se répercuteraient néanmoins de l'une à l'autre. Elles se répercuteraient soit d'une compagnie ou d'un groupe de compagnies sur une ou plusieurs autres compagnies, soit d'une juridiction se caractérisant par un certain type de réglementation sur une ou plusieurs autres juridictions.

Le modèle établi par Peat Marwick révèle que les incidences interjuridictionnelles au niveau des tarifs se répercuteraient sur toutes les compagnies, sous la forme d'écarts entre leurs tarifs locaux. Autrement dit, compte tenu des hypothèses retenues par l'exercice de modélisation, chaque compagnie serait affectée différemment. Ces incidences interviennent si l'on part des hypothèses selon lesquelles : a) les contributions versées par les concurrents seraient établies par rapport à une moyenne et b) elles seraient versées directement aux compagnies de téléphone assurant le trafic de départ et d'arrivée. Au niveau individuel, chaque compagnie enregistrerait soit un excédent de revenus, soit un manque à gagner, selon la différence entre les paiements de contribution reçus et selon les autres effets financiers de l'application des procédures de partage des revenus. Les compagnies dont les contributions aux coûts communs étaient les plus importantes avant l'introduction de la concurrence seraient celles qui subiraient le plus les incidences des variations de contribution. Elles devraient prendre davantage de mesures (augmenter leurs tarifs locaux, par exemple) afin de compenser la réduction de leurs revenus, réduction à laquelle on pourrait s'attendre dans un contexte concurrentiel.

Dans les cas où la concurrence interviendrait dans et entre les zones de desserte des compagnies membres de Telecom Canada mais non dans celles des compagnies de téléphone non membres de Telecom Canada, le modèle ne prévoyait aucune incidence interjuridictionnelle. On suppose que la réglementation ou les politiques gouvernementales interdiraient aux concurrents d'acheminer le trafic d'arrivée dans la zone de desserte des compagnies autres que les membres de Telecom Canada. Toute entente de raccordement devant obligatoirement être

conclue avec les compagnies membres de Telecom Canada, aucune incidence ne se répercuterait sur les compagnies autres que les membres de Telecom Canada. Cependant, si la revente du WATS était autorisée, il serait en pratique difficile d'interdire qu'un certain volume de trafic de départ, au moins, soit acheminé dans les zones de desserte des compagnies autres que les membres de Telecom Canada. Il en résulterait donc un certain manque à gagner, dans la mesure où les ententes relatives au trafic WATS génèrent moins de revenus pour ces compagnies que le SICT.

Les résultats du modèle relatif au scénario de concurrence dans et entre les zones de desserte de Bell Canada et de B.C. Tel seulement mettent en lumière un exemple des incidences interjuridictionnelles susceptibles de se répercuter d'une juridiction où la concurrence est autorisée sur d'autres où elle ne l'est pas. Bien que dans ce scénario, d'autres compagnies membres de Telecom Canada n'autoriseraient pas la concurrence au niveau du trafic de départ ou d'arrivée, elles n'en subiraient pas moins un manque à gagner important, en raison de la réduction des revenus de contribution versés dans le fonds commun de Telecom Canada et devant être partagés en vertu du PPR. Comme nous l'avons déjà vu, chaque compagnie serait affectée différemment, selon le niveau normal de remboursement à partir du fonds commun en question. A l'instar des compagnies autres que les membres de Telecom Canada, il serait possible aux concurrents d'acheminer les appels de départ dans des zones de desserte non ouvertes à la concurrence, peut-être même en toute impunité. Cela aggraverait les répercussions néfastes au niveau des revenus, dans la mesure où une certaine partie du trafic du SICT serait acheminée sous forme de WATS, dont la contribution aux coûts communs est moins élevée.

La discussion qui précède se fonde sur les résultats du modèle utilisé pour prédire les incidences interjuridictionnelles. Ce modèle suppose que les compagnies de téléphone ne seraient pas capables de répondre par des rabais aux rabais consentis par leurs concurrents. Si les compagnies de téléphone qui desservent des zones où la concurrence existe avaient la possibilité de réduire leurs tarifs, il se pourrait que l'on voie se développer des déséquilibres marqués au niveau des tarifs interurbains, dans certains scénarios. Si, par exemple, la concurrence existait uniquement dans les zones de desserte de Bell Canada et de B.C. Tel, et non ailleurs, ou si la concurrence était introduite dans les zones des compagnies membres de Telecom Canada, mais non dans celles des compagnies non membres de Telecom Canada, des écarts tarifaires importants se feraient nécessairement sentir. On assisterait également à des déséquilibres au niveau des tendances des appels, dans la mesure où les abonnés chercheraient à effectuer leurs appels de départ dans les zones de desserte les moins coûteuses. Cela donnerait lieu à un manque à gagner général et à des pressions considérables de la part des abonnés pour que les compagnies de téléphone rajustent leurs tarifs sur ceux des compagnies qui vendent le SICT/WATS à meilleur marché.

6.5 Sommaire relatif à l'exercice de modélisation financière

L'étude de Peat Marwick a examiné les répercussions financières de l'introduction de la concurrence dans la prestation du service interurbain au Canada, selon plusieurs scénarios différents. Les résultats obtenus permettent de penser que, si l'on établissait des conditions pour garantir la viabilité financière d'un

fournisseur de services interurbains exploitant ses propres installations dans les scénarios étudiés, tous les abonnés de la plupart des compagnies de téléphone paieraient des tarifs locaux modérément plus élevés. On a supposé qu'un faible pourcentage des abonnés se prévaudraient des tarifs interurbains plus bas du concurrent.

Les intrants du modèle supposent également qu'au début de leurs opérations, les concurrents exploitant leurs propres installations devraient offrir d'importants rabais sur les prix, afin de pénétrer le marché interurbain. Les coûts initiaux de la prestation du service interurbain seraient probablement plus élevés pour eux que pour les compagnies de téléphone établies. De plus, il faudrait une supervision et une surveillance réglementaires afin que cet obstacle à l'entrée dans le marché puisse être franchi et que les concurrents puissent survivre. Pendant la période de mise en marche, il serait nécessaire d'accorder aux concurrents un rabais important sur leurs paiements de contribution. Les résultats de la modélisation indiquent également qu'avec une part du marché de 20 %, les concurrents et les compagnies de téléphone auraient à peu près le même niveau de coûts marginaux et que les concurrents seraient donc en mesure de payer une contribution plus importante qu'initialement, même en maintenant le même rabais. Néanmoins, aussi longtemps que le concurrent maintiendrait des prix escomptés, un rabais de contribution serait requis.

7.0 RÉSUMÉ ET CONCLUSIONS

Ce rapport répond à une demande d'information de la part des ministres responsables des Communications visant à les aider à examiner l'opportunité de la concurrence dans la prestation du service téléphonique interurbain public. L'étude exécutée par un groupe de travail formé de membres d'organismes de réglementation fédéral, provinciaux et territoriaux en matière de télécommunications et, dans certains cas, de représentants gouvernementaux, présente les résultats d'un examen des facteurs qui seraient reliés à l'introduction possible au Canada de la concurrence dans la prestation du service téléphonique interurbain public.

Le Groupe de travail a examiné les mécanismes à l'égard de la concurrence dans la prestation du service interurbain adoptés dans divers pays et il en a étudié les répercussions. Avec leur système de réglementation à deux paliers, c'est-à-dire fédéral-états, les États-Unis ont permis la concurrence interurbaine d'abord au palier fédéral, puis dans la plupart des états. D'importants changements apportés à la structure de l'industrie des télécommunications ainsi qu'aux pratiques de réglementation permettent la concurrence dans les services interurbains, mais ils protègent encore largement les compagnies de téléphone locales monopolistiques des effets de la concurrence. Parmi les éléments clés de l'approche américaine se trouvent l'établissement des zones locales de transport et d'accès (LATA) ainsi que l'élaboration de moyens par lesquels les télécommunicateurs interurbains peuvent avoir un accès égal aux abonnés des compagnies de téléphone locales et contribuer au recouvrement des coûts de prestation du service téléphonique non sensibles au trafic. Une LATA désigne une zone englobant généralement un grand centre de population (dans certains cas tout un État) dans lequel les compagnies de téléphone offrent généralement les services locaux et intraLATA sur une base monopolistique. (Récemment, certains États ont commencé à autoriser la concurrence intraLATA.) Les compagnies de téléphone locales sont obligées de donner à tous les télécommunicateurs interurbains autorisés accès aux abonnés se trouvant dans leurs LATA respectives. La Federal Communications Commission et certains organismes de réglementation d'État ont mis sur pied divers programmes de frais d'accès des télécommunicateurs pour garantir que les compagnies de téléphone locales soient dédommagées pour le fait qu'elles soient tenues d'offrir l'interconnexion aux télécommunicateurs interurbains concurrentiels. Ces programmes prévoient aussi un financement constant pour appuyer la prestation du service téléphonique local. Ce service, y compris celui qui est offert aux zones rurales et éloignées, n'a donc pas été menacé par la concurrence dans la prestation du service téléphonique interurbain public.

Les États-Unis ont vu leur tarif téléphonique varier sensiblement ces dernières années, mais ces fluctuations sont attribuables à des mesures prises par des organismes de réglementation et qui n'ont rien à voir avec l'introduction de la concurrence. Entre 1977 et 1980, l'indice des prix du service téléphonique local et celui du service interurbain ont chuté. Depuis le début des années 1980, l'indice des prix du service local a augmenté sensiblement, tandis que celui des services interurbains interétats et intraétat a diminué substantiellement. L'indice des prix du service téléphonique global a augmenté, sauf en 1987, où l'on

a observé une diminution, probablement due à des réductions d'impôt sur le revenu des sociétés et à d'autres facteurs économiques.

Le Royaume-Uni et le Japon ont autorisé la concurrence avec l'ancien fournisseur monopolistique de services téléphoniques, appartenant à l'État. Ces deux pays ont, par ailleurs, adopté des approches différentes. Le Royaume-Uni a limité la concurrence à un nouvel entrant, qu'il a autorisé à offrir des services sur son propre réseau interurbain, en utilisant aussi à l'occasion son propre réseau local, mais surtout le réseau local de la compagnie de téléphone. Le concurrent peut offrir des services dans des zones qu'il a choisies lui-même et sans être tenu de fournir un paiement de contribution pour soutenir la prestation du service local. Le Japon a choisi une structure basée sur une division entre les télécommunicateurs exploitant leurs propres installations et les revendeurs, chaque catégorie comprenant un nombre relativement important de nouveaux entrants. Malgré ce qui semble être un interfinancement important du service local par le service interurbain qui est inhérent dans la structure tarifaire de l'ancien fournisseur monopolistique, les nouveaux entrants ne sont pas tenus de contribuer à la prestation du service local.

En analysant les données disponibles sur l'expérience de pays étrangers, il n'a pas été possible de relier de façon concluante la concurrence dans la prestation du service interurbain et divers aspects de la prestation de ce service. Aux États-Unis, d'autres facteurs sont venus en obscurcir les effets -- la restructuration de l'industrie, les changements tarifaires décrétés par les organismes de réglementation, des changements aux pratiques d'amortissement, les changements fiscaux, etc. Ainsi, bien que les tarifs applicables au service téléphonique local aient augmenté et que ceux du service interurbain aient baissé, ces variations tarifaires peuvent être attribuées en grande partie aux facteurs ci-dessus plutôt qu'à la concurrence comme telle. Au Royaume-Uni et au Japon, il s'est écoulé une période trop courte depuis l'introduction de la concurrence pour qu'on puisse observer des répercussions importantes.

Des points de vue technique et opérationnel, l'expérience américaine semble indiquer que la concurrence dans ce pays a entraîné une plus grande variété de prix que l'innovation de services. Il y a eu innovation, certes, mais on ne peut affirmer de façon concluante que la concurrence dans la prestation du service interurbain en est l'explication. Des données sur les coûts relatives aux économies d'échelle et de portée ainsi qu'à la productivité ne sont pas plus concluantes. Malgré l'absence de liens concluants, le rapport présente des données qualitatives et théoriques qui suggèrent un certain nombre de répercussions probables de la concurrence dans la prestation du service interurbain.

Étant donné l'incertitude qui existe quant au fait de lier la concurrence dans la prestation du service interurbain à divers facteurs pouvant toucher le niveau global du service téléphonique (économies d'échelle et de portée, productivité, etc.), il est difficile d'établir les répercussions macroéconomiques de la concurrence. Dans la mesure, cependant, où il y a eu restructuration tarifaire à la suite de la concurrence ou de mesures de réglementation -- soit des réductions des tarifs interurbains, soit des réductions des tarifs interurbains accompagnées

d'augmentations tarifaires locales compensatoires, laissant inchangées la rentabilité de la compagnie de téléphone -- il en résulterait des effets macroéconomiques modestes mais positifs.

Le Groupe de travail a estimé que les coûts de modification du réseau téléphonique en place pour offrir aux concurrents l'accès au centre local de commutation se situeraient entre zéro et 213 millions de dollars environ, selon le genre d'accès et le nombre de localités en cause. Les coûts courants d'accès estimatifs sont de 0,02 $ la minute à l'arrivée et au départ d'un interurbain. Enfin, une étude commandée par le Groupe de travail a révélé que l'élasticité de la demande par rapport aux prix, qui évalue de quelle façon les quantités demandées réagissent aux variations de prix, tous les autres facteurs étant constants, est généralement inélastique pour le service téléphonique interurbain public.

Le rapport propose d'examiner trois modèles généraux de concurrence dans le contexte canadien. Un premier postule un marché entièrement concurrentiel et ouvert dans lequel ni les compagnies de téléphone en place ni les nouveaux entrants ne seraient réglementés relativement à la prestation du service téléphonique interurbain public. Selon un deuxième, la concurrence serait entièrement réglementée tout comme l'ensemble des participants. Un troisième souligne une situation dans laquelle seuls les télécommunicateurs dominants seraient réglementés, laissant les non-dominants pratiquement libres d'entrer dans le marché et d'en sortir, ainsi que de fournir des services au gré du marché.

Les études commandées par le Groupe du travail ont permis de faire une constatation clé, à savoir, que les nouveaux télécommunicateurs exploitant leurs propres installations auraient besoin, du moins au cours de la période de mise en marche, d'un avantage tarifaire par rapport aux compagnies de téléphone pour leur permettre d'entrer dans le marché interurbain et de survivre. Aucune combinaison d'éléments de service ou d'avantages autres que de prix ne permettrait aux télécommunicateurs exploitant leurs propres installations de livrer concurrence sans un avantage tarifaire. D'après les attentes des abonnés, des réductions de prix d'au moins 10 % seraient nécessaires.

Le rapport expose également divers scénarios de concurrence en regard de questions particulières se rapportant à la géographie, aux juridictions, et à la structure de l'industrie, qui pourraient former le tableau de la concurrence au Canada. Par exemple, la concurrence pourrait être autorisée : a) sur une base extraprovinciale/extraterritoriale seulement (sauf que la concurrence se ferait sur une base extracompagnie pour les compagnies dont les zones de desserte traversent des limites provinciales et territoriales), c'est-à-dire, pour les appels interurbains interprovinciaux, Canada-États-Unis et Canada-outre-mer seulement; b) sur une base extraprovinciale/extraterritoriale plus, dans certaines juridictions, interrégionale (cette dernière ressemblerait à l'approche LATA américaine; ou c) sur une base extraprovinciale/extraterritoriale et intraprovinciale/intraterritoriale dans certaines localités partout au pays. Le rapport étudie également des scénarios où la concurrence ne serait autorisée que sur les routes à forte densité de trafic ou dans des zones de marché ciblées et où une approche permissive à la concurrence internationale a été adoptée. Ces scénarios

fournissent un éventail d'approches possibles en vertu desquelles la concurrence pourrait être introduite dans le contexte canadien.

Enfin, le rapport présente les résultats d'une analyse financière, réalisée par des experts-conseils portant sur la concurrence interurbaine possible au Canada. L'analyse a été faite pour le scénario "c" ci-dessus -- c'est-à-dire, où la concurrence pourrait survenir sur une base extraprovinciale/extraterritoriale et intraprovinciale/ intraterritoriale dans certaines localités du Canada. À des fins de modélisation, on a supposé que le concurrent était financièrement viable. Selon le modèle, pour qu'un concurrent soit financièrement viable, il serait nécessaire de lui offrir un rabais important sur les paiements de contribution pour recouvrer les frais d'accès des abonnés au cours de la période de mise en marche, et ce rabais se traduirait probablement par des tarifs locaux mensuels plus élevés. Avec une part du marché de 20 % pour les concurrents, les coûts différentiels estimatifs du concurrent et des compagnies de téléphone seraient à peu près les mêmes, et le concurrent serait alors en mesure de payer une contribution plus importante qu'initialement tout en maintenant le même rabais. Néanmoins, aussi longtemps que le concurrent maintiendra des prix escomptés, un rabais de contribution sera requis.

ANNEXE A

LISTE DES PARTICIPANTS AU GROUPE DE TRAVAIL

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Conseil de la radiodiffusion et des télécommunications canadiennes

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Doug Whatley

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Gerald O. Barron

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ANNEXE B

DESCRIPTION DES TYPES D'ACCÈS

DES TÉLÉCOMMUNICATEURS ET LES COÛTS ASSOCIÉS

ANNEXE B

DESCRIPTION DES TYPES D'ACCÈS DES TÉLÉCOMMUNICATEURS ET LES COÛTS ASSOCIÉS

La première partie de l'annexe donne une description plus détaillée de chaque type d'accès commuté que celle que l'on trouve à la section 4.2.3 du rapport. L'annexe renferme aussi les estimations des coûts de modification des réseaux locaux des compagnies de téléphone en vue d'établir les divers types d'accès et des coûts constants d'utilisation.

Description des types d'accès

Le Groupe de travail a étudié seize variantes dans six grandes catégories d'accès par lesquelles les compagnies de téléphone pouvaient rendre les services interurbains des concurrents accessibles à leurs abonnés. Chaque type d'accès présente les caractéristiques suivantes.

1) **Accès de Type A**

- Le "point d'occupation" du fournisseur concurrent de services interurbains est raccordé au "circuit de ligne" du central local de la compagnie de téléphone (qui assure le départ et l'arrivée des appels);
- le point d'occupation du fournisseur concurrent peut être un commutateur ou l'extrémité terminale d'un commutateur;
- le raccordement au circuit de ligne est du même type de branchement que pour les centraux privés ou les lignes d'affaires individuelles;
- la composition se fait en deux temps : d'abord pour accéder au point d'occupation du télécommunicateur interurbain et, ensuite, pour signaler le numéro d'identification personnelle et le numéro demandé.

2) **Accès de Type B**

- Le point d'occupation du fournisseur concurrent est raccordé au circuit principal du central local de la compagnie de téléphone (ce n'est possible que pour les centraux numériques);
- ce type de mécanisme offre une amélioration des caractéristiques de transmission et de trafic;
- les procédures de composition sont les mêmes que pour le mécanisme d'accès de Type A.

3) **Accès de Type C**

- Le point d'occupation du fournisseur concurrent est raccordé au circuit principal du central local de la compagnie de téléphone (C1 et C2), à un central de transit local – commutateur intermédiaire – (C3 et C4) ou à un central interurbain (C5 et C6); dans chaque cas, l'une ou l'autre variation intervient selon qu'il y a ou non enregistrement automatique des numéros (EAN);

- la composition se fait en deux temps; cependant, un numéro universel 950-0XXX est affecté au fournisseur concurrent (c'est-à-dire que les abonnés pourraient utiliser le même numéro dans n'importe quel central au Canada, à condition que celui-ci permette d'accéder au nouveau fournisseur de services voulu). Avec l'EAN, il n'est pas nécessaire de composer son numéro d'identification personnel dans un deuxième temps.

4) **Accès de Type D**

- Le point d'occupation du fournisseur concurrent est raccordé au central interurbain de la compagnie de téléphone; c'est la variation D1 ou D2 qui intervient, selon qu'il y a ou non EAN;

- la composition se fait en deux temps; les abonnés composent le 1 suivi du numéro universel 950-0XXX pour accéder au nouveau fournisseur de services voulu.

5) **Accès de Type E**

- Le point d'occupation du fournisseur concurrent est raccordé au circuit principal du central local de la compagnie de téléphone (E1), à un central de transit local (E2) ou à un central interurbain (E3);

- dans chaque cas, il y a enregistrement automatique des numéros (EAN), supervision de la réponse et du débranchement et signalisation du type circuit principal;

- la composition se fait en un seul temps : les abonnés composent le préfixe universel à cinq chiffres affecté au télécommunicateur interurbain (10-XXX) suivi du numéro demandé;

- chaque télécommunicateur interurbain est doté d'un code unique XXX.

6) **Accès de Type F**

- Comparable à l'égalité d'accès aux É.-U.; le point d'occupation du fournisseur concurrent est raccordé au circuit principal du central local de la compagnie de téléphone (F1), à un centre de transit local (F2) ou à un central interurbain (F3);

- lorsqu'il a recours au télécommunicateur présélectionné (qu'il s'agisse de la compagnie de téléphone ou d'un télécommunicateur interurbain concurrent choisi de préférence pour la prestation du service interurbain), l'abonné compose le 1 suivi du numéro demandé;

- pour accéder aux autres télécommunicateurs, y compris à la compagnie de téléphone lorsque ce n'est pas elle qui a été présélectionnée, l'abonné compose le préfixe universel à cinq chiffres (10-XXX) suivi du numéro demandé.

Coûts d'accès

Le Groupe de travail a évalué les coûts détaillés de transformation des réseaux locaux des compagnies de téléphone en vue d'établir les divers mécanismes d'accès et les coûts courants d'utilisation de ces arrangements (par minute de conversation au départ et à l'arrivée d'un appel interurbain). Les tableaux suivants ont été élaborés à partir des renseignements fournis par les compagnies de téléphone. Dans certains cas, celles-ci ont demandé que leurs données soient traitées à titre confidentiel. Par conséquent, dans les tableaux qui suivent, les coûts calculés de ces compagnies ont été supprimés. Toutefois, sauf mention contraire, ces coûts sont inclus dans les chiffres globaux présentés dans le rapport.

Les coûts ont été calculés pour chacun des scénarios de concurrence suivants.

a) Routes susceptibles de concurrence :

- routes reliant des centres de service régional ayant au moins 100 000 services d'accès au réseau;

- routes reliant des centres de service régional ayant au moins 25 000 services d'accès au réseau (le tableau B-1 fournit une liste des localités qui appartiennent à ces deux catégories); et

- ensemble des centres.

b) Variations de la part du marché des nouveaux fournisseurs concurrents :

- 10 % de la part du marché dans les régions desservies par des télécommunicateurs concurrents;

20 % de la part du marché dans les régions desservies par des télécommunicateurs concurrents.

Le tableau B-2 présente les pourcentages des abonnés de compagnies de téléphone qu'il serait possible de desservir en vertu de chaque type d'accès. En raison des contraintes des installations que certaines compagnies utilisent, il serait impossible de desservir tous les abonnés avec certains types d'accès. Les tableaux B-3 à B-5 résument les coûts de modification pour les compagnies de téléphone selon la taille du centre de service régional et pour tous les centres. Les tableaux B-6 à B-8 présentent les coûts courants pour les mêmes catégories d'accès et selon la part du marché d'autres fournisseurs de services.

Les valeurs calculées proviennent des coûts représentatifs choisis après examen des chiffres fournis par les diverses compagnies de téléphone, mais elles ne fournissent qu'un ordre de grandeur approximatif des coûts. Elles ont été jugées utiles aux fins de l'étude, mais elles ne représentent pas les coûts réels. En effet, une évaluation des coûts réels exigerait une étude détaillée de l'architecture des réseaux locaux et des projets de raccordement précis (qui comprendrait probablement une combinaison des variantes présentées dans les tableaux qui suivent).

TABLEAU B-1 - Grands centres régionaux

Compagnie	Centres régionaux ayant plus de 100 000 SAR	Centres régionaux ayant entre 25 000 et 100 000 SAR
B.C. Tel	Vancouver Victoria	Abbotsford Kamloops Kelowna Nanaimo Prince George
AGT 'et'	Calgary Edmonton	Lethbridge Red Deer
SaskTel	Régina Saskatoon	
Manitoba Tel	Winnipeg	Brandon
Bell Canada	Hamilton Kitchener-Waterloo London Montréal Ottawa-Hull Québec Sherbrooke St. Catherines Toronto Windsor	Barrie Belleville Brantford Chatham Chicoutimi Cornwall Drummondville Galt Granby Guelph Joliette Kingston Milton Newmarket North Bay Oshawa Peterborough St-Jean St-Jérôme Sarnia Sault Ste. Marie Shawinigan Sudbury Trois Rivières Valleyfield Welland
Québec-Tél		Rimouski
Thunder Bay		Thunder Bay
NBTel		Frédéricton Moncton Saint-Jean
Island Tel		Charlottetown
MT&T	Halifax	Sydney
Nfld Tel		St. John's

TABLEAU B-2 - POURCENTAGE D'ABONNÉES DESSERVIS

	A	B	C1	C2	C3	C4	C5	C6	D1	D2	E1	E2	E3	F1	F2	F3
CENTRES AYANT > 100 000 SAR																
AGT	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	94,94	94,94	94,94
Bell Canada	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	91,34	91,34	91,34
B.C. Tel	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00
MT&T	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	99,24	99,24	99,24
Manitoba Tel	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
'et'	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00
Québec-Tél (serv. rég. à Québec)	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00
Télébec (serv. rég. à Québec)	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	00,00	00,00	00,00
CENTRES AYANT > 25 000 SAR																
AGT	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	95,68	95,68	95,68
Bell Canada	100,00	99,23	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	93,63	93,63	93,63
B.C. Tel	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	99,25	99,25	99,25
Island Tel	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	95,27	95,27	95,27
MT&T	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	98,91	98,91	98,91
Manitoba Tel	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	99,96	99,96	99,96
NBTel	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00
Newfoundland Tel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
'et'	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00
Québec-Tél	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00
Télébec	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	40,18	40,18	40,18
Thunder Bay	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Ensemble des centres																
AGT	100,00	100,00	100,00	100,00	70,38	70,38	100,00	100,00	100,00	100,00	100,00	70,38	100,00	96,96	67,34	96,96
Bell Canada	100,00	87,79	100,00	100,00	86,75	86,75	99,93	99,93	100,00	100,00	99,93	86,75	99,93	86,57	81,22	86,57
B.C. Tel	100,00	96,27	100,00	100,00	75,17	75,17	100,00	100,00	100,00	100,00	99,95	75,17	99,95	90,03	74,61	90,03
Island Tel	100,00	82,55	100,00	100,00	58,68	58,68	100,00	100,00	100,00	100,00	100,00	58,68	100,00	84,30	55,90	84,30
MT&T	100,00	86,17	100,00	100,00	58,30	58,30	100,00	100,00	100,00	100,00	100,00	58,30	100,00	93,26	57,67	93,26
Manitoba Tel	100,00	98,10	100,00	100,00	41,55	41,55	100,00	100,00	100,00	100,00	99,86	41,55	99,86	99,09	41,53	99,09
NBTel	100,00	96,83	100,00	100,00	57,98	57,98	100,00	100,00	100,00	100,00	100,00	57,98	100,00	96,83	57,98	96,83
Newfoundland Tel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Amtelecom	100,00	50,08	100,00	100,00	00,00	00,00	100,00	100,00	100,00	100,00	50,08	00,00	50,08	50,08	00,00	50,08
'et'	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00
Northern Telephone	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Norouestel	100,00	56,26	100,00	100,00	00,00	00,00	100,00	100,00	100,00	100,00	79,49	00,00	69,51	73,26	00,00	63,28
Ontario Northland	100,00	00,00	100,00	100,00	00,00	00,00	100,00	100,00	100,00	100,00	100,00	00,00	100,00	100,00	00,00	100,00
Prince Rupert City Tel	100,00	00,00	100,00	100,00	00,00	00,00	100,00	100,00	100,00	100,00	100,00	00,00	100,00	100,00	00,00	100,00
Québec-Tél	100,00	100,00	100,00	100,00	14,86	14,86	100,00	100,00	100,00	100,00	100,00	14,86	100,00	100,00	14,86	100,00
Télébec	100,00	47,94	100,00	100,00	08,05	08,05	100,00	100,00	100,00	100,00	100,00	08,05	100,00	64,02	03,24	64,02
TerraNova	100,00	13,53	100,00	100,00	00,00	00,00	100,00	100,00	100,00	100,00	28,68	00,00	28,68	28,68	00,00	28,68
Thunder Bay	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

Note: Estimations du Groupe de travail selons les données présentées par les compagnies de téléphone.

* Données sous-jacentes déposées à titre confidentiel.

TABLEAU B-3 - RÉSUMÉ DES COÛTS DE MODIFICATION - CENTRES RÉGIONAUX AYANT > 100 000 SAR

TOTAL DES COÛTS (en milliers de dollars)	A	B	C1	C2	C3	C4	C5	C6	D1	D2	E1	E2	E3	F1	F2	F3
AGT	0	118	101	101	107	1 817	107	237	107	237	2 663	4 379	2 799	5 828	8 058	6 444
Bell Canada	0	590	21 182	21 182	21 210	29 762	21 235	22 474	801	2 040	68 988	77 568	70 280	67 648	78 798	73 500
B.C. Tel	0	0	123	123	123	123	296	361	296	361	7 576	7 576	7 814	17 407	17 407	17 885
MT&T	0	59	248	248	251	1 106	251	316	42	107	1 733	2 591	1 801	2 511	3 626	2 819
Manitoba Tel	0	59	62	62	64	920	67	198	67	198	226	1 084	362	1 710	2 825	2 326
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
'et'	0	59	67	67	70	925	67	67	67	67	396	1 254	396	2 848	3 963	2 848
Québec-Tél (serv. rég. à Québec)	0	0	3	3	3	3	6	71	6	71	85	85	153	85	85	393
Télébec (serv. rég. à Québec)	0	0	201	201	201	201	201	201	0	0	201	201	201	0	0	0
Total (sauf SaskTel)	0	885	21 987	21 987	22 029	34 857	22 229	23 925	1 385	3 081	81 868	94 738	83 806	98 037	114 762	106 215
COÛT PAR LIGNE																
AGT	0,00	0,18	0,16	0,16	0,17	2,80	0,17	0,37	0,17	0,37	4,11	6,76	4,32	9,47	13,10	10,47
Bell Canada	0,00	0,10	3,56	3,56	3,57	5,00	3,57	3,78	0,13	0,34	11,60	13,04	11,82	12,45	14,50	13,53
B.C. Tel	0,00	0,00	0,12	0,12	0,12	0,12	0,29	0,35	0,29	0,35	7,41	7,41	7,64	17,02	17,02	17,49
MT&T	0,00	0,24	1,00	1,00	1,01	4,45	1,01	1,27	0,17	0,43	6,97	10,42	7,24	10,17	14,69	11,42
Manitoba Tel	0,00	0,14	0,14	0,14	0,15	2,12	0,16	0,46	0,16	0,46	0,52	2,50	0,84	3,95	6,52	5,37
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
'et'	0,00	0,13	0,15	0,15	0,15	2,00	0,15	0,15	0,15	0,15	0,86	2,71	0,86	6,15	8,56	6,15
Québec-Tél (serv. rég. à Québec)	0,00	0,00	0,29	0,29	0,29	0,29	0 57	7,25	0,57	7,25	8,71	8,71	15,68	8,71	8,71	40,27
Télébec (serv. rég. à Québec)	0,00	0,00	110,00	110,00	110,00	110,00	110,00	110,00	0,00	0,00	110,00	110,00	110,00			

Note: Estimations du Groupe de travail selons les données présentées par les compagnies de téléphone.

* Données sous-jacentes déposées à titre confidentiel.

TABLEAU B-4 - RÉSUMÉ DES COÛTS DE MODIFICATION - CENTRES RÉGIONAUX AYANT > 25 000 SAR

TOTAL DES COÛTS (en milliers de dollars)	A	B	C1	C2	C3	C4	C5	C6	D1	D2	E1	E2	E3	F1	F2	F3
AGT	0	236	107	107	118	3 539	113	243	113	243	2 669	6 101	2 805	5 982	10 442	6 598
Bell Canada	0	2 006	44 563	44 563	44 664	75 451	44 644	46 535	1 114	3 005	107 072	137 960	109 044	86 091	126 231	95 023
B.C. Tel	0	0	155	155	666	666	556	556	556	556	9 574	10 085	9 975	23 977	24 488	24 378
Island Tel	0	59	16	16	19	874	19	84	19	84	44	902	112	154	1 269	462
MT&T	0	116	265	265	271	1 981	271	401	62	192	2 114	3 830	2 250	3 005	5 235	3 621
Manitoba Tel	0	116	70	70	76	1 786	78	274	78	274	244	1 960	448	1 864	4 094	2 788
NBTel	0	177	31	31	39	2 605	36	167	36	167	31	2 605	167	1 210	4 555	1 826
Newfoundland Tel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
'et'	0	59	67	67	70	925	67	67	67	67	396	1 254	396	2 848	3 963	2 848
Québec-Tél	0	59	6	6	8	864	11	142	11	142	88	946	224	162	1 277	778
Télébec	0	0	647	647	647	647	647	647	17	17	693	693	693	77	77	77
Thunder Bay	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	0	3 068	46 042	45 995	46 657	92 838	46 519	49 388	2 151	5 020	125 369	172 212	128 762	130 076	190 797	144 029
COÛT PAR LIGNE																
AGT	0,00	0,31	0,14	0,14	0,16	4,67	0,15	0,32	0,15	0,32	3,52	8,04	3,70	8,24	14,39	9,09
Bell Canada	0,00	0,28	6,12	6,12	6,14	10,37	6,13	6,39	0,15	0,41	14,71	18,96	14,98	12,63	18,52	13,94
B.C. Tel	0,00	0,00	0,12	0,12	0,53	0,53	0,44	0,44	0,44	0,44	7,66	8,07	7,98	19,34	19,75	19,66
Island Tel	0,00	1,55	0,42	0,42	0,49	22,97	0,49	2,21	0,49	2,21	1,15	23,70	2,93	4,25	35,01	12,74
MT&T	0,00	0,38	0,86	0,86	0,88	6,41	0,88	1,30	0,20	0,62	6,84	12,39	7,28	9,83	17,13	11,85
Manitoba Tel	0,00	0,26	0,15	0,15	0,17	3,90	0,17	0,60	0,17	0,60	0,53	4,28	0,98	4,07	8,95	6,09
NBTel	0,00	0,86	0,15	0,15	0,19	12,66	0,18	0,81	0,18	0,81	0,15	12,66	0,81	5,88	22,13	8,87
Newfoundland Tel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
'et'	0,00	0,13	0,15	0,15	0,15	2,00	0,15	0,15	0,15	0,15	0,86	2,71	0,86	6,15	8,56	6,15
Québec-Tél	0,00	1,52	0,14	0,14	0,22	22,31	0,29	3,66	0,29	3,66	2,27	24,44	5,78	4,19	32,99	20,10
Télébec	0,00	0,00	53,69	53,69	53,69	53,69	53,69	53,69	1,39	1,39	57,51	57,51	57,51	15,91	15,91	15,91
Thunder Bay	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

Note: Estimations du Groupe de travail selons les données présentées par les compagnies de téléphone.

* Données sous-jacentes déposées à titre confidentiel.

TABLEAU B-5 - RÉSUMÉ DES COÛTS DE MODIFICATION - ENSEMBLE DES CENTRES

TOTAL DES COÛTS (en milliers de dollars)	A	B	C1	C2	C3	C4	C5	C6	D1	D2	E1	E2	E3	F1	F2	F3
AGT	0	1 180	160	160	118	3 539	166	296	166	296	1 956	6 101	2 092	7 469	10 442	8 085
Bell Canada	0	5 015	91 683	91 683	44 664	75 451	91 781	93 927	2 047	4 193	165 883	137 960	168 127	98 447	126 231	108 611
B.C. Tel	0	0	265	265	776	776	1 034	1 099	1 034	1 099	16 146	16 657	16 980	30 531	31 042	31 605
Island Tel	0	118	43	43	49	1 759	46	111	46	111	220	1 936	288	331	2 561	639
MT&T	0	767	957	957	963	2 673	963	1 093	314	444	4 705	6 421	4 441	5 669	7 899	6 285
Manitoba Tel	0	1 475	403	403	408	2 119	414	675	294	555	1 908	3 624	2 180	4 875	7 105	6 107
NBTel	0	885	1 073	1 073	1 081	3 647	1 078	1 209	90	220	1 137	3 711	1 273	2 134	5 479	2 750
Newfoundland Tel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Amtelecom	0	59	17	17			17	17	17	17	3		258	77		332
'et'	0	59	67	67	70	925	67	67	67	67	396	1 254	396	2 848	3 963	2 848
Northern Telephone	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Northwestel	0		165	165			460	460	460	460	871		1 166	835		1 130
Ontario Northland	0		14	14			20	85	20	85	250		368	250		608
Prince Rupert City Tel	0		3	3			3	3	3	3	657		657	657		657
Québec-Tél	0	236	39	39	8	864	45	175	45	175	861	946	997	1 158	1 277	1 774
Télébec	0	590	4 035	4 035	647	647	4 043	4 171	165	293	5 187	693	5 323	1 706	77	2 322
TerraNova	0	59	353	353			356	421	356	421	256		324	525		833
Thunder Bay	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	0	12 508	103 915	103 531	49 184	98 220	104 757	108 335	5 432	9 009	208 219	186 493	213 325	165 843	208 563	184 149
COÛT PAR LIGNE																
AGT	0,00	1,10	0,15	0,15	0,16	4,67	0,15	0,27	0,15	0,27	1,82	8,04	1,94	7,15	14,39	7,74
Bell Canada	0,00	0,68	10,93	10,93	6,14	10,37	10,95	11,20	0,24	0,50	19,79	18,96	20,05	13,55	18,52	14,95
B.C. Tel	0,00	0,00	0,16	0,16	0,62	0,62	0,62	0,66	0,62	0,66	9,72	13,33	10,22	20,40	25,03	21,12
Island Tel	0,00	2,20	0,67	0,67	1,28	46,23	0,71	1,71	0,71	1,71	3,40	50,89	4,45	6,05	70,65	11,69
MT&T	0,00	1,68	1,81	1,81	3,12	8,65	1,82	2,06	0,59	0,84	8,88	20,78	9,14	11,47	25,85	12,72
Manitoba Tel	0,00	1,36	0,37	0,37	0,89	4,63	0,38	0,61	0,27	0,50	1,73	7,92	1,98	4,47	15,53	5,59
NBTel	0,00	2,57	3,02	3,02	5,25	17,72	3,04	3,41	0,25	0,62	3,20	18,03	3,59	6,21	26,62	8,00
Newfoundland Tel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Amtelecom	0,00	9,83	1,40	1,40			1,40	1,40	1,40	1,40	0,47		42,97	12,83		55,33
'et'	0,00	0,13	0,15	0,15	0,15	2,00	0,15	0,15	0,15	0,15	0,86	2,71	0,86	6,15	6,56	6,15
Northern Telephone	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Norouestel	0,00	0,00	4,60	4,60			12,80	12,80	12,80	12,80	30,48		46,65	31,71		49,67
Ontario Northland	0,00		6,49	6,49			9,08	39,30	9,08	39,30	115,85		170,53	115,85		281,74
Prince Rupert City Tel	0,00		0,35	0,35			0,35	0,35	0,35	0,35	82,13		82,13	82,13		82,13
Québec-Tél	0,00	0,91	0,15	0,15	0,22	22,31	0,17	0,67	0,17	0,67	3,31	24,44	3,83	4,44	32,99	6,81
Télébec	0,00	8,23	26,98	26,98	53,69	53,69	27,03	27,89	1,10	1,96	34,68	57,51	35,59	17,82	15,91	24,25
TerraNova	0,00	7,51	6,08	6,08			6,13	7,25	6,13	7,25	15,36		19,45	31,55		50,06
Thunder Bay	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

Note: Estimations du Groupe de travail selons les données présentées par les compagnies de téléphone.

* Données sous-jacentes déposées à titre confidentiel.

TABLEAU B-6 - RÉSUMÉ DES COÛTS COURANTS (1986) - CENTRES RÉGIONAUX AYANT > 100 000 SAR

	A	B	C1	C2	C3	C4	C5	C6	D1	D2	E1	E2	E3	F1	F2	F3
TOTAL DES COÛTS (en milliers de dollars)																
10 % de la part du marché																
AGT	2 409	2 434	3 050	2 999	2 434	2 426	2 645	2 590	2 645	2 590	2 999	2 426	2 590	3 269	2 724	2 872
Bell Canada	18 068	18 259	22 808	22 451	18 259	18 224	19 792	19 404	19 792	19 404	22 451	18 224	19 404	24 224	20 462	21 542
B.C. Tel	3 246	3 281	4 092	4 030	3 281	3 278	3 543	3 477	3 543	3 477	4 030	3 278	3 477	4 730	3 978	4 164
MT&T	611	617	774	761	617	615	672	657	672	657	761	615	657	924	779	819
Manitoba Tel	1 441	1 456	1 824	1 794	1 456	1 452	1 582	1 549	1 582	1 549	1 794	1 452	1 549	2 090	1 748	1 840
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
'et'	1 720	1 738	2 177	2 141	1 738	1 733	1 889	1 850	1 889	1 850	2 141	1 733	1 850	2 458	2 049	2 160
Québec-Tél (serv. rég. à Québec)	24	25	31	30	25	24	30	29	30	29	30	24	29	37	31	35
Télébec (serv. rég. à Québec)	6	6	7	7	6	6	6	6	6	6	7	6	6			
Total (sauf SaskTel)	27 526	27 816	34 763	34 215	27 816	27 758	30 157	29 561	30 157	29 561	34 215	27 758	29 561	37 731	31 771	33 432
20 % de la part du marché																
AGT	4 818	4 868	6 098	5 997	4 868	4 852	5 290	5 180	5 290	5 180	5 997	4 852	5 180	6 535	5 449	5 743
Bell Canada	36 106	36 483	45 604	44 891	36 483	36 414	39 525	34 962	39 525	38 750	44 891	36 414	38 750	48 437	40 889	43 028
B.C. Tel	6 487	6 555	8 182	8 059	6 555	6 549	7 086	6 953	7 086	6 953	8 059	6 549	6 953	9 457	7 948	8 327
MT&T	1 213	1 234	1 548	1 522	1 234	1 230	1 343	1 315	1 343	1 315	1 522	1 230	1 315	1 847	1 558	1 639
Manitoba Tel	2 882	2 912	3 646	3 587	2 912	2 903	3 163	2 798	3 163	3 098	3 587	2 903	3 098	4 179	3 495	3 679
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
'et'	3 441	3 476	4 354	4 282	3 476	3 465	3 777	3 699	3 777	3 699	4 282	3 465	3 699	4 915	4 098	4 319
Québec-Tél (serv. rég. à Québec)	49	49	62	61	49	49	57	48	57	55	61	49	55	74	62	69
Télébec (serv. rég. à Québec)	11	11	14	14	11	11	12	11	12	12	14	11	12			
Total (sauf SaskTel)	55 006	55 589	69 506	68 411	55 589	55 473	60 253	54 965	60 253	59 061	68 411	55 473	59 061	75 445	63 498	66 804
COÛT PAR MINUTE																
10 % de la part du marché																
AGT	0,0195	0,0197	0,0246	0,0242	0,0197	0,0196	0,0214	0,0209	0,0214	0,0209	0,0242	0,0196	0,0209	0,0278	0,0232	0,0244
Bell Canada	0,0193	0,0195	0,0243	0,0239	0,0195	0,0194	0,0211	0,0207	0,0211	0,0207	0,0239	0,0194	0,0207	0,0283	0,0239	0,0252
B.C. Tel	0,0191	0,0193	0,0241	0,0237	0,0193	0,0193	0,0209	0,0205	0,0209	0,0205	0,0237	0,0193	0,0205	0,0279	0,0234	0,0245
MT&T	0,0196	0,0198	0,0248	0,0244	0,0198	0,0197	0,0215	0,0210	0,0215	0,0210	0,0244	0,0197	0,0210	0,0298	0,0251	0,0264
Manitoba Tel	0,0194	0,0196	0,0246	0,0242	0,0196	0,0196	0,0213	0,0209	0,0213	0,0209	0,0242	0,0196	0,0209	0,0282	0,0236	0,0248
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
'et'	0,0195	0,0197	0,0246	0,0242	0,0197	0,0196	0,0214	0,0209	0,0214	0,0209	0,0242	0,0196	0,0209	0,0278	0,0232	0,0244
Québec-Tél (serv. rég. à Québec)	0,0201	0,0203	0,0256	0,0251	0,0203	0,0202	0,0244	0,0236	0,0244	0,0236	0,0251	0,0202	0,0236	0,0306	0,0257	0,0290
Télébec (serv. rég. à Québec)	0,0202	0,0204	0,0254	0,0250	0,0204	0,0203	0,0221	0,0216	0,0221	0,0216	0,0250	0,0203	0,0216	0,0000	0,0000	0,0000
20 % de la part du marché																
AGT	0,0195	0,0197	0,0246	0,0242	0,0197	0,0196	0,0214	0,0209	0,0214	0,0209	0,0242	0,0196	0,0209	0,0278	0,0232	0,0244
Bell Canada	0,0193	0,0195	0,0243	0,0239	0,0195	0,0194	0,0211	0,0186	0,0211	0,0207	0,0239	0,0194	0,0207	0,0283	0,0239	0,0251
B.C. Tel	0,0191	0,0193	0,0241	0,0237	0,0193	0,0193	0,0209	0,0205	0,0209	0,0205	0,0237	0,0193	0,0205	0,0279	0,0234	0,0245
MT&T	0,0196	0,0198	0,0248	0,0244	0,0198	0,0197	0,0215	0,0210	0,0215	0,0210	0,0244	0,0197	0,0210	0,0298	0,0251	0,0264
Manitoba Tel	0,0194	0,0196	0,0246	0,0242	0,0196	0,0196	0,0213	0,0189	0,0213	0,0209	0,0242	0,0196	0,0209	0,0282	0,0236	0,0248
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
'et'	0,0195	0,0197	0,0246	0,0242	0,0197	0,0196	0,0214	0,0209	0,0214	0,0209	0,0242	0,0196	0,0209	0,0278	0,0232	0,0244
Québec-Tél (serv. rég. à Québec)	0,0200	0,0202	0,0255	0,0250	0,0202	0,0201	0,0234	0,0197	0,0234	0,0228	0,0250	0,0201	0,0228	0,0305	0,0256	0,0282
Télébec (serv. rég. à Québec)	0,0198	0,0200	0,0251	0,0247	0,0200	0,0200	0,0218	0,0199	0,0218	0,0213	0,0247	0,0200	0,0213			

Note: Estimations du Groupe de travail selons les données présentées par les compagnies de téléphone.

* Données sous-jacentes déposées à titre confidentiel.

TABLEAU B-7 - RÉSUMÉ DES COÛTS COURANTS (1986) - CENTRES RÉGIONAUX AYANT > 25 000 SAR

TOTAL DES COÛTS (en milliers de dollars)	A	B	C1	C2	C3	C4	C5	C6	D1	D2	E1	E2	E3	F1	F2	F3
10 % de la part du marché																
AGT	2 820	2 849	3 569	3 511	2 849	2 840	3 095	3 031	3 095	3 031	3 511	2 840	3 031	3 855	3 213	3 386
Bell Canada	22 163	22 229	27 912	27 476	22 407	22 364	24 263	23 789	24 263	23 789	27 476	22 389	23 789	30 388	25 694	27 006
B.C. Tel	3 978	4 023	5 001	4 926	4 023	4 019	4 330	4 249	4 330	4 249	4 926	4 019	4 249	5 737	4 839	5 050
Island Tel	98	100	123	120	100	99	107	107	107	104	120	99	107	141	121	129
MT&T	761	770	962	946	770	767	839	821	837	821	946	767	821	1 144	968	1 019
Manitoba Tel	1 525	1 541	1 928	1 896	1 541	1 537	1 675	1 641	1 675	1 641	1 896	1 537	1 641	2 208	1 849	1 948
NBTel	672	680	843	829	681	679	732	716	732	716	829	679	716	970	819	854
Newfoundland Tel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
'et'	1 720	1 738	2 177	2 141	1 738	1 733	1 889	1 850	1 889	1 850	2 141	1 733	1 850	2 458	2 049	2 160
Québec-Tél	98	99	123	120	99	99	113	110	113	110	120	99	110	147	125	136
Télébec	37	37	46	46	37	37	40	39	40	39	46	37	39	22	18	19
Thunder Bay	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	35 276	35 485	44 447	43 744	35 664	35 586	38 628	37 867	38 626	37 864	43 744	35 611	37 867	48 086	41 394	43 500
20 % de la part du marché																
AGT	5 595	5 645	7 136	7 018	5 645	5 626	6 101	5 975	6 101	5 975	7 018	5 626	5 975	7 708	6 426	6 773
Bell Canada	44 234	44 354	55 805	54 932	44 716	44 633	48 410	42 780	48 410	47 464	54 932	44 633	47 464	60 757	51 293	53 902
B.C. Tel	7 940	8 026	9 999	9 849	8 026	8 019	8 659	8 496	8 659	8 496	9 849	8 019	8 496	11 470	9 659	10 099
Island Tel	195	197	245	240	197	196	210	211	210	205	240	196	211	281	239	254
MT&T	1 520	1 537	1 923	1 890	1 537	1 531	1 673	1 638	1 673	1 638	1 890	1 531	1 638	2 288	1 933	2 034
Manitoba Tel	3 049	3 081	3 854	3 791	3 081	3 071	3 348	2 958	3 348	3 279	3 791	3 071	3 279	4 415	3 695	3 892
NBTel	1 339	1 354	1 686	1 657	1 354	1 349	1 463	1 295	1 463	1 432	1 657	1 349	1 432	1 939	1 630	1 708
Newfoundland Tel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
'et'	3 441	3 476	4 354	4 282	3 476	3 465	3 777	3 699	3 777	3 699	4 282	3 465	3 699	4 915	4 098	4 319
Québec-Tél	195	197	245	240	197	196	220	189	220	215	240	196	215	293	249	267
Télébec	72	73	92	90	73	73	79	71	79	78	90	73	78	43	36	38
Thunder Bay	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	70 369	70 759	88 860	87 455	71 121	70 968	77 005	70 017	77 005	75 479	87 455	70 968	75 485	98 139	82 635	86 844

Note: Estimations du Groupe de travail selons les données présentées par les compagnies de téléphone.

* Données sous-jacentes déposées à titre confidentiel.

TABLEAU B-7 (suite) - RÉSUMÉ DES COÛTS COURANTS (1986) - CENTRES RÉGIONAUX AYANT > 25,000 SAR

COÛT PAR MINUTE	A	B	C1	C2	C3	C4	C5	C6	D1	D2	E1	E2	E3	F1	F2	F3
10 % de la part du marché																
AGT	0,0195	0,0197	0,0246	0,0242	0,0197	0,0196	0,0214	0,0209	0,0214	0,0209	0,0242	0,0196	0,0209	0,0278	0,0232	0,0244
Bell Canada	0,0193	0,0195	0,0243	0,0240	0,0195	0,0195	0,0212	0,0207	0,0212	0,0207	0,0240	0,0195	0,0207	0,0283	0,0239	0,0251
B.C. Tel	0,0192	0,0194	0,0241	0,0238	0,0194	0,0194	0,0209	0,0205	0,0209	0,0205	0,0238	0,0194	0,0205	0,0279	0,0235	0,0245
Island Tel	0,0204	0,0207	0,0254	0,0250	0,0207	0,0205	0,0222	0,0223	0,0222	0,0217	0,0250	0,0205	0,0223	0,0307	0,0263	0,0280
MT&T	0,0196	0,0198	0,0248	0,0244	0,0198	0,0198	0,0216	0,0212	0,0216	0,0212	0,0244	0,0198	0,0212	0,0298	0,0252	0,0266
Manitoba Tel	0,0195	0,0197	0,0246	0,0242	0,0197	0,0196	0,0214	0,0209	0,0214	0,0209	0,0242	0,0196	0,0209	0,0282	0,0236	0,0249
NBTel	0,0198	0,0200	0,0248	0,0244	0,0201	0,0200	0,0215	0,0211	0,0215	0,0211	0,0244	0,0200	0,0211	0,0286	0,0241	0,0252
Newfoundland Tel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
'et'	0,0195	0,0197	0,0246	0,0242	0,0197	0,0196	0,0214	0,0209	0,0214	0,0209	0,0242	0,0196	0,0209	0,0278	0,0232	0,0244
Québec-Tél	0,0204	0,0207	0,0255	0,0250	0,0207	0,0205	0,0234	0,0229	0,0234	0,0229	0,0250	0,0205	0,0229	0,0305	0,0260	0,0283
Télébec	0,0200	0,0202	0,0253	0,0249	0,0202	0,0201	0,0219	0,0215	0,0219	0,0215	0,0249	0,0201	0,0215	0,0293	0,0244	0,0257
Thunder Bay	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20 % de la part du marché																
AGT	0,0193	0,0195	0,0246	0,0242	0,0195	0,0194	0,0211	0,0206	0,0211	0,0206	0,0242	0,0194	0,0206	0,0278	0,0232	0,0244
Bell Canada	0,0193	0,0195	0,0243	0,0239	0,0195	0,0195	0,0211	0,0186	0,0211	0,0207	0,0239	0,0195	0,0207	0,0283	0,0239	0,0251
B.C. Tel	0,0191	0,0193	0,0241	0,0237	0,0193	0,0193	0,0209	0,0205	0,0209	0,0205	0,0237	0,0193	0,0205	0,0279	0,0235	0,0245
Island Tel	0,0202	0,0205	0,0254	0,0249	0,0205	0,0203	0,0218	0,0219	0,0218	0,0213	0,0249	0,0203	0,0219	0,0307	0,0261	0,0277
MT&T	0,0196	0,0198	0,0248	0,0244	0,0198	0,0197	0,0216	0,0211	0,0216	0,0211	0,0244	0,0197	0,0211	0,0298	0,0252	0,0265
Manitoba Tel	0,0195	0,0197	0,0246	0,0242	0,0197	0,0196	0,0214	0,0189	0,0214	0,0209	0,0242	0,0196	0,0209	0,0282	0,0236	0,0248
NBTel	0,0197	0,0199	0,0248	0,0244	0,0199	0,0199	0,0215	0,0191	0,0215	0,0211	0,0244	0,0199	0,0211	0,0285	0,0240	0,0252
Newfoundland Tel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
'et'	0,0195	0,0197	0,0246	0,0242	0,0197	0,0196	0,0214	0,0209	0,0214	0,0209	0,0242	0,0196	0,0209	0,0278	0,0232	0,0244
Québec-Tél	0,0202	0,0205	0,0254	0,0249	0,0205	0,0203	0,0229	0,0196	0,0229	0,0223	0,0249	0,0203	0,0223	0,0304	0,0258	0,0277
Télébec	0,0198	0,0200	0,0250	0,0246	0,0200	0,0199	0,0217	0,0193	0,0217	0,0212	0,0246	0,0199	0,0212	0,0290	0,0243	0,0255
Thunder Bay	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

Note: Estimations du Groupe de travail selons les données présentées par les compagnies de téléphone.

* Données sous-jacentes déposées à titre confidentiel.

TABLEAU B-8 - RÉSUMÉ DES COÛTS COURANTS (1986) - ENSEMBLE DES CENTRES

TOTAL DES COÛTS (en milliers de dollars)	A	B	C1	C2	C3	C4	C5	C6	D1	D2	E1	E2	E3	F1	F2	F3
10 % de la part du marché																
AGT	4 163	4 234	5 077	4 994	2 849	2 840	4 398	4 307	4 398	4 307	4 994	2 840	4 307	5 557	3 213	4 876
Bell Canada	25 952	22 743	32 193	31 690	22 407	22 364	27 861	27 314	27 881	27 334	32 169	22 389	27 314	32 400	25 694	28 548
B.C. Tel	5 450	5 327	6 660	6 561	4 023	4 019	5 760	5 652	5 760	5 652	6 558	4 019	5 649	7 044	5 085	6 207
Island Tel	177	154	210	204	100	99	177	176	180	176	206	99	181	215	131	200
MT&T	1 401	1 245	1 656	1 627	770	767	1 431	1 404	1 431	1 404	1 627	767	1 404	1 855	968	1 652
Manitoba Tel	3 719	3 680	4 643	4 567	1 541	1 537	4 023	3 940	4 023	3 940	4 561	1 537	3 935	5 272	1 849	4 638
NBTel	1 235	1 622	819	1 427	2 384	2 330	2 914	2 865	1 354	1 349	2 523	2 232	2 523	2 469	2 865	1 349
Newfoundland Tel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Amtelecom	42	26	47	46			50	50	50	50	24		23	28		27
'et'	1 720	1 738	2 177	2 141	1 738	1 733	1 889	1 850	1 889	1 850	2 141	1 733	1 850	2 458	2 049	2 160
Northern Telephone	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Norouestel	111	52	105	104			98	96	98	96	83		70	94		80
Ontario Northland	10		9	9			9	9	9	9	9		9	10		11
Prince Rupert City Tel	34		42	41			37	50	37	50	55		50	60		104
Québec-Tél	740	764	826	811	99	99	715	698	715	698	811	99	698	989	125	874
Télébec	512	256	567	557	37	37	490	479	490	479	557	37	479	424	18	372
TerraNova	234	27	222	217			193	189	193	189	62		54	74		65
Thunder Bay	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	48 581	44 635	58 820	58 504	37 366	37 237	53 141	52 111	51 603	50 612	59 880	37 165	51 572	62 817	43 695	54 566
20 % de la part du marché																
AGT	8 160	8 271	10 146	9 979	5 645	5 628	8 795	8 613	8 795	8 613	9 979	5 628	8 613	11 104	6 426	9 752
Bell Canada	51 491	45 325	64 349	63 343	44 716	44 633	55 715	49 282	55 754	54 660	64 302	44 633	54 622	64 770	51 293	57 090
B.C. Tel	10 754	10 492	13 309	13 109	8 026	8 019	11 519	11 302	11 519	11 302	13 103	8 019	11 297	14 077	10 151	12 413
Island Tel	343	296	417	405	100	99	348	342	355	347	409	196	357	428	261	395
MT&T	2 706	2 752	3 301	3 245	1 537	1 531	2 861	2 800	2 861	2 800	3 245	1 531	2 800	3 701	1 933	3 297
Manitoba Tel	7 336	7 244	9 278	9 126	3 081	3 071	8 046	7 118	8 046	7 880	9 113	3 071	7 869	10 536	3 695	9 275
NBTel	2 384	2 330	2 914	2 865	1 354	1 349	2 523	2 232	2 523	2 469	2 865	1 349	2 469	3 240	1 630	2 853
Newfoundland Tel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Amtelecom	79	46	93	92			91	72	91	90	46		43	54		51
'et'	3 441	3 476	4 354	4 282	3 476	3 465	3 777	3 699	3 777	3 699	4 282	3 465	3 699	4 915	4 098	4 319
Northern Telephone	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Norouestel	194	98	205	202			187	155	187	184	161		133	184		153
Ontario Northland	16		17	17			17	13	17	17	17		16	20		19
Prince Rupert City Tel	66		83	82			71	72	71	70	82		72	93		82
Québec-Tél	1 441	1 648	1 618	197	196	1 429	1 265	1 429	1 396	1 618	196	1 396	1 974	249	1 748	
Télébec	969	480	1 128	1 110	73	73	977	865	977	956	1 110	73	956	843	36	742
TerraNova	414	51	438	429			382	334	382	373	123		107	146		129
Thunder Bay	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	95 733	87 801	118 771	115 485	71 021	72 105	102 749	93 789	102 927	101 124	116 021	72 169	101 062	122 082	84 648	107 367

Note: Estimations du Groupe de travail selons les données présentées par les compagnies de téléphone.

* Données sous-jacentes déposées à titre confidentiel.

TABLEAU B-8 (suite) - RÉSUMÉ DES COÛTS COURANTS (1986) - ENSEMBLE DES CENTRES

COÛT PAR MINUTE	A	B	C1	C2	C3	C4	C5	C6	D1	D2	E1	E2	E3	F1	F2	F3
10 % de la part du marché																
AGT	0,0202	0,0206	0,0247	0,0243	0,0197	0,0196	0,0214	0,0209	0,0214	0,0209	0,0243	0,0196	0,0209	0,0278	0,0232	0,0244
Bell Canada	0,0196	0,0196	0,0243	0,0240	0,0195	0,0195	0,0211	0,0207	0,0211	0,0207	0,0243	0,0195	0,0207	0,0283	0,0239	0,0249
B.C. Tel	0,0198	0,0201	0,0241	0,0238	0,0194	0,0194	0,0209	0,0205	0,0209	0,0205	0,0238	0,0194	0,0205	0,0284	0,0247	0,0250
Island Tel	0,0215	0,0227	0,0255	0,0248	0,0207	0,0205	0,0216	0,0215	0,0219	0,0214	0,0251	0,0205	0,0220	0,0311	0,0286	0,0288
MT&T	0,0210	0,0217	0,0249	0,0245	0,0198	0,0198	0,0215	0,0211	0,0215	0,0211	0,0245	0,0198	0,0211	0,0299	0,0252	0,0266
Manitoba Tel	0,0197	0,0199	0,0246	0,0242	0,0197	0,0196	0,0213	0,0209	0,0213	0,0209	0,0242	0,0196	0,0209	0,0282	0,0236	0,0248
NBTel	0,0209	0,0211	0,0249	0,0245	0,0201	0,0200	0,0215	0,0211	0,0215	0,0211	0,0245	0,0200	0,0211	0,0286	0,0241	0,0252
Newfoundland Tel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Amtelecom	0,0223	0,0277	0,0249	0,0245			0,0267	0,0262	0,0267	0,0262	0,0249		0,0240	0,0293		0,0282
'et'	0,0195	0,0197	0,0246	0,0242	0,0197	0,0196	0,0214	0,0209	0,0214	0,0209	0,0242	0,0196	0,0209	0,0278	0,0232	0,0244
Northern Telephone	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Norouestel	0,0272	0,0226	0,0257	0,0253			0,0239	0,0235	0,0239	0,0235	0,0253		0,0244	0,0312		0,0308
Ontario Northland	0,0283		0,0256	0,0252			0,0272	0,0268	0,0272	0,0268	0,0252		0,0268	0,0295		0,0309
Prince Rupert City Tel	0,0197		0,0242	0,0238			0,0213	0,0294	0,0213	0,0289	0,0318		0,0294	0,0350		0,0304
Québec-Tél	0,0228	0,0236	0,0255	0,0250	0,0207	0,0205	0,0221	0,0215	0,0221	0,0215	0,0250	0,0205	0,0215	0,0305	0,0260	0,0270
Télébec	0,0225	0,0235	0,0249	0,0245	0,0202	0,0201	0,0215	0,0211	0,0215	0,0211	0,0245	0,0201	0,0211	0,0291	0,0244	0,0256
TerraNova	0,0282	0,0237	0,0267	0,0262			0,0233	0,0227	0,0233	0,0227	0,0263		0,0227	0,0310		0,0274
Thunder Bay	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20 % de la part du marché																
AGT	0,0198	0,0201	0,0246	0,0242	0,0195	0,0194	0,0214	0,0209	0,0214	0,0209	0,0242	0,0194	0,0209	0,0278	0,0232	0 0244
Bell Canada	0,0195	0,0195	0,0243	0,0240	0,0195	0,0195	0,0211	0,0186	0,0211	0,0207	0,0243	0,0195	0,0207	0,0283	0,0239	0,0249
B.C. Tel	0,0195	0,0198	0,0241	0,0238	0,0193	0,0193	0,0209	0,0205	0,0209	0,0205	0,0238	0,0193	0,0205	0,0283	0,0247	0,0250
Island Tel	0,0209	0,0218	0,0254	0,0247	0,0207	0,0205	0,0212	0,0208	0,0216	0,0211	0,0249	0,0203	0,0218	0,0309	0,0284	0,0285
MT&T	0,0203	0,0207	0,0248	0,0244	0,0198	0,0197	0,0215	0,0210	0,0215	0,0210	0,0244	0,0197	0,0210	0,0298	0,0252	0,0266
Manitoba Tel	0,0195	0,0196	0,0246	0,0242	0,0197	0,0196	0,0213	0,0189	0,0213	0,0209	0,0242	0,0196	0,0209	0,0282	0,0236	0,0248
NBTel	0,0204	0,0205	0,0249	0,0245	0,0199	0,0199	0,0215	0,0191	0,0215	0,0211	0,0245	0,0199	0,0211	0,0286	0,0240	0,0252
Newfoundland Tel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
SaskTel	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Amtelecom	0,0209	0,0245	0,0246	0,0242			0,0242	0,0190	0,0242	0,0238	0,0244		0,0226	0,0288		0,0268
'et'	0,0195	0,0197	0,0246	0,0242	0,0197	0,0196	0,0214	0,0209	0,0214	0,0209	0,0242	0,0196	0,0209	0,0278	0,0232	0,0244
Northern Telephone	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Norouestel	0,0237	0,0213	0,0250	0,0247			0,0229	0,0189	0,0229	0,0225	0,0247		0,0233	0,0307		0,0296
Ontario Northland	0,0240		0,0249	0,0246			0,0246	0,0197	0,0246	0,0243	0,0246		0,0243	0,0289		0,0284
Prince Rupert City Tel	0,0194		0,0241	0,0238			0,0208	0,0209	0,0208	0,0204	0,0238		0,0209	0,0270		0,0240
Québec-Tél	0,0217	0,0222	0,0254	0,0250	0,0205	0,0203	0,0220	0,0195	0,0220	0,0215	0,0250	0,0203	0,0215	0,0305	0,0258	0,0270
Télébec	0,0213	0,0220	0,0248	0,0244	0,0200	0,0199	0,0215	0,0190	0,0215	0,0210	0,0244	0,0199	0,0210	0,0289	0,0243	0,0255
TerraNova	0,0249	0,0225	0,0264	0,0259			0,0230	0,0201	0,0230	0,0225	0,0259		0,0225	0,0307		0,0272
Thunder Bay	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

Note: Estimations du Groupe de travail selons les données présentées par les compagnies de téléphone.

* Données sous-jacentes déposées à titre confidentiel.

ANNEXE C

ENTENTES SUR LES COMMISSIONS ET SUR LE PARTAGE DES REVENUS UTILISÉES PAR LES COMPAGNIES DE TÉLÉPHONE CANADIENNES

ANNEXE C

ENTENTES SUR LES COMMISSIONS ET SUR LE PARTAGE DES REVENUS UTILISÉES PAR LES COMPAGNIES DE TÉLÉPHONE CANADIENNES

Ententes sur les commissions et le partage des revenus

Les compagnies de téléphone sont des entreprises régionales. De façon à répondre aux besoins des abonnés dont les appels ont pour origine ou pour destination des zones qui ne sont pas desservies par elles, les réseaux des compagnies de téléphone sont interconnectés pour former un réseau mondial. Comme les revenus interurbains sont habituellement perçus uniquement sur les appels de départ des abonnés, les compagnies de téléphone ont élaboré des plans complexes relatifs aux commissions et au partage des revenus, afin de répartir les revenus perçus d'une façon qui soit mutuellement acceptable par les compagnies concernées.

Cette annexe décrit les principaux types d'entente, notamment celles conclues entre :

- les compagnies membres de Telecom Canada;
- une compagnie membre de Telecom Canada et une compagnie de téléphone indépendante;
- Téléglobe et les compagnies de téléphone canadiennes; et
- les compagnies de téléphone canadiennes et les télécommunicateurs américains.

A. Plan de partage des revenus (PPR) de Telecom Canada

(i) Importance du processus du PPR

Le processus du PPR permet de répartir entre les compagnies de téléphone membres de Telecom Canada les revenus provenant des appels effectués entre des compagnies membres adjacentes n'utilisant les installations d'aucune autre compagnie membre, ainsi que les revenus provenant des services de Telecom Canada. Le tableau C-1 donne une idée de l'importance de ce processus, en indiquant le montant des revenus partagés en vertu du PPR et en exprimant ce montant en pourcentage des revenus interurbains totaux et des revenus d'exploitation totaux de chaque compagnie membre de Telecom Canada, pour 1986. Les revenus partagés en vertu du PPR représentent entre 38 % et 67 % des revenus interurbains des compagnies membres, cette année-là.

(ii) Aperçu historique

Lors de la mise en place du Réseau téléphonique transcanadien (RTT), aujourd'hui Telecom Canada, les services assurés conjointement par au moins deux compagnies membres étaient assujettis à un tarif forfaitaire. En vertu

TABLEAU C-1

Revenus provenant des services interurbains monopolistiques partagés en vertu du Plan de partage des revenus de Telecom Canada, 1986 (1)
(en millions de dollars)

Compagnie	Total des revenus partagés (2)	Total des revenus de l'inter-urbain	% des revenus partagés par rapport au total des revenus de l'inter-urbain	Total des revenus d'exploi-tation	% des revenus partagés par rapport au total des revenus de l'inter-urbain
Nfld Tel	n/d	79	n/d	146	n/d
Island Tel	11	17	67,1%	36	31,9%
MT&T	94	171	55,2%	333	28,3%
NBTel	79	131	60,1%	258	30,5%
Bell Canada	1 086	2 878	37,7%	5 946	18,3%
Manitoba Tel (3)	117	191	61,5%	377	31,1%
SaskTel	n/d	270	n/d	450	n/d
AGT(4)	264	563	46,9%	1 066	24,8%
B.C. Tel(5)	402	724	45,3%	1 347	24,3%
Total (6)	2 242	5 024	44,6%	9 958	22,5%

Notes:
(1) Service téléphonique interurbain = SICT, WATS et Service 800: n/d désigne non disponible ou confidentiel.
(2) Inclut la compagnie adjacente et Telecom Canada (c.-à-d. transcanadien, Canada-É.-U. et Canada-outre-mer).
(3) Pour l'exercice financier se terminant le 31 mars 1987.
(4) Sans compter les paiements supplémentaires (payables par les membres de Telecom Canada, estimés à 30,5 millions de dollars) imputables rétroactivement à 'et' en vertu de la décision arbitrale de 1987.
(5) Inclut le WATS et le Service 800 pour le trafic intracompagnie.
(6) Les colonnes de totaux comprennent les données fournies à titre confidentiel.

SOURCE: Selon les réponses fournies par les compagnies de téléphone aux demandes de renseignements formulées par les membres du Groupe de travail, 30 septembre 1987.

de ce système, les compagnies participant à l'acheminement desappels interurbains de départ et d'arrivée recevaient une "commission", et le solde des revenus était partagé proportionnellement, en fonction de la distance. Les compagnies membres du RTT ont appliqué cette méthode jusqu'en 1958, date à laquelle on a adopté le Plan de répartition intégrale (PRI).

En vertu du PRI, on remboursait d'abord à chaque compagnie membre les coûts liés à la prestation de sa part des services et les revenus restants étaient ensuite divisés entre les compagnies membres au prorata des dépenses d'équipement imputables aux services du RTT pour chaque compagnie, par rapport à l'ensemble des dépenses d'équipement imputables aux services du RTT pour toutes les compagnies membres. Le PRI a été supprimé en 1976 et une entente provisoire de partage des revenus a été adoptée par le RTT, en attendant la mise en place, en octobre 1977, du Plan de partage des revenus (PPR).

Le PPR a été mis en place en réponse aux préoccupations des compagnies membres qui estimaient que le PRI ne pouvait être adapté aux changements d'environnement auxquels étaient exposées les compagnies de téléphone. Par exemple, certaines reprochaient au PRI de tenir trop peu compte du degré divers de participation des membres dans la prestation des services concurrentiels.

L'objectif du PPR a donc été de surmonter ces difficultés. Le PPR est entré en vigueur le 1er octobre 1977. Pour éviter que les compagnies membres aient à subir une baisse soudaine de leur part des revenus partagés, les procédures de partage PPR devaient être mises en place progressivement, sur une période de 10 ans. Cependant, comme les compagnies membres souhaitaient conclure le plus rapidement possible des ententes concurrentielles séparées, toutes les procédures du PPR furent mises en place dès la mi-1978.

Toutes les compagnies membres de Telecom Canada, à l'exception de Télésat Canada, sont actuellement visées par le PPR. Il s'agit d'un plan fondé sur les coûts, et son objectif consiste à indemniser chaque compagnie membre proportionnellement aux coûts qu'elle engage dans la prestation du service interurbain de Telecom Canada.

(iii) <u>Classification des revenus</u>

Aux fins du partage, les revenus perçus par les compagnies membres de Telecom Canada se divisent en deux catégories principales : revenus des services interurbains de base (c'est-à-dire, monopolistiques) et revenus des services concurrentiels. À l'intérieur de chaque catégorie, les revenus perçus sont subdivisés en trois groupes : les revenus intracompagnie, les revenus du trafic avec des compagnies adjacentes et les revenus de Telecom Canada (incluant les communications transcanadiennes, Canada-États-Unis

et Canada–outre–mer). Chaque membre garde ses revenus intra–compagnie. Les revenus du trafic avec des compagnies adjacentes et ceux de Telecom Canada sont partagés selon des règles semblables.

Pour ce qui est des services de Telecom Canada, les revenus provenant de nombreux services variés offerts à l'échelle pancanadienne sont considérés comme des revenus de Telecom Canada. Le plus important de ces services est le Service interurbain à communications tarifées. Les revenus de Telecom Canada sont également répartis selon de grandes catégories de trafic dont les principales sont :

- le trafic transcanadien

  C'est dans cette catégorie de revenus que l'on trouve le plus grand nombre et la plus grande variété de services fournis par Telecom Canada. Le critère essentiel qui permet de déterminer les revenus à inclure est que les points de départ et d'arrivée des appels ne doivent pas se trouver dans la zone de desserte de compagnies membres adjacentes. Cependant, les revenus provenant de certains services expressément désignés (par ex., Voicecom II, Multicom II, Dataroute, Datalink, Datapac, etc.) sont inclus, que le trafic se limite à la zone de desserte d'une seule compagnie membre ou qu'il déborde dans celles d'autres compagnies membres.

- Le trafic Canada–États–Unis et Canada–outre–mer

  Les revenus provenant du SICT, du TWX, du service 800 et de Datapac sont classés dans la catégorie Canada–États–Unis, du PPR pour le trafic Canada–États–Unis (à l'exception des états et zones de desserte non limitrophes) et Canada–Mexique. La catégorie Canada–outre–mer se compose principalement des revenus provenant des appels dont les points de départ ou d'arrivée se trouvent au Canada et dont l'acheminement est assuré par l'un des trois centres de transit international de Téléglobe, soit Montréal, Toronto ou Vancouver.

(iv) Classification des coûts

Aux fins du partage, les coûts sont, eux aussi, répartis en deux catégories : coûts des services interurbains de base et coûts des services concurrentiels. Le paragraphe qui suit traite uniquement du partage des coûts des services interurbains de base.

Les coûts des services interurbains de base sont subdivisés comme suit : services interurbains de base de Telecom Canada, services interurbains de base échangés avec les compagnies membres adjacentes, services interurbains de base intracompagnie, services locaux et coûts des appareils et des circuits (coûts "C"). Les coûts des services interurbains de base et des services locaux sont les coûts tributaires de l'utilisation rattachés à la prestation des divers services. Ils incluent les coûts des équipements de commutation et des

circuits entre les centraux. Quant aux coûts des appareils et des circuits, ce sont des coûts liés à l'établissement de l'accès entre le central local d'une compagnie de téléphone et l'équipement de l'abonné. Ils comprennent le câblage intérieur chez l'abonné et un appareil téléphonique à cadran par abonné, pour une ligne individuelle* et ils sont considérés comme étant des coûts communs des réseaux locaux et interurbains.

v) Processus du PPR

Les revenus de "Telecom Canada" perçus par les neuf compagnies de téléphone membres sont versés chaque mois dans un fonds commun. Auparavant, toutefois, des "commissions" sont versées aux compagnies "indépendantes" (c'est-à-dire non membres de Telecom Canada) en contrepartie de l'utilisation d'installations d'accès pour raccorder leurs abonnés aux réseaux interurbains des compagnies membres de Telecom Canada. Ces compagnies n'ont que très peu ou pas du tout d'installations interurbaines; par conséquent, ce sont les neuf compagnies de téléphone principales qui assument une grande partie des coûts de prestation des services interurbains aux abonnés de ces compagnies et perçoivent les revenus correspondants en leur nom.

Chaque mois, Telecom Canada procède aux étapes suivantes pour répartir les revenus des services monopolistiques de Telecom Canada perçus par ses compagnies membres et versés au fonds commun :

(i) Les revenus perçus au nom de Téléglobe Canada lui sont versés, à chaque membre, sans partage: il s'agit des revenus provenant entièrement des services téléphoniques Canada-outre-mer.

(ii) Le partage avec les télécommunicateurs américains est calculé. Il peut s'agir de revenus nets ou de déboursés nets, versés au fonds commun.

(iii) Les revenus partagés avec Télésat Canada font l'objet d'un système de partage différent de celui qui s'applique aux "compagnies de téléphone" visées par le PPR.

(iv) Chaque compagnie membre est ensuite remboursée, sur les revenus restants, de la partie de ses coûts attribuable à la prestation des services définis comme services de Telecom Canada. C'est ce que l'on appelle les coûts imputés recouvrables (CIR). Ces coûts sont recouvrés en priorité sur les revenus à partager. Ils incluent les coûts d'entretien,

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*Dans les régions où les abonnés sont autorisés à procéder au raccordement de leur propre équipement, un coût "présumé" d'environ 40 % est attribué à la catégorie de coûts "C", pour les lignes d'accès au réseau n'utilisant pas un appareil téléphonique fourni par la compagnie de téléphone.

les coûts d'amortissement, les coûts du trafic, les charges financières et l'impôt sur le revenu.

v) La partie résiduelle du fonds, appelée Fonds de revenus de contribution, est ensuite distribuée parmi les compagnies membres de la manière décrite plus bas.

Comme l'indiquent les étapes iv et v, le fonds de revenus de Telecom Canada comporte deux parties essentielles : 1) une partie qui sert à couvrir les coûts directs des compagnies de téléphone; et 2) une partie excédentaire qui permet de contribuer aux coûts communs des compagnies de téléphone et (ou) aux autres services qu'elles peuvent offrir. Le montant qu'une compagnie membre reçoit en vertu du PPR est égal à la somme de ses coûts imputés recouvrables (en général 20 % environ du total des revenus partagés) et des revenus de contribution (en général 80 % environ du total des revenus partagés).

Le contenu du Fonds de revenus de contribution de Telecom Canada est ensuite réparti de la façon suivante parmi les compagnies membres :

(i) Les coûts des appareils et des circuits (les coûts "C") de chaque compagnie sont répartis proportionnellement aux coûts directs spécifiquement attribuables des équipements de commutation et de transmission nécessaires à la prestation des services suivants :

Services	Coûts directs spécifiquement attribuables
Services locaux	L
Services interurbains monopolistiques intracompagnie	I
Services interurbains monopolistiques offerts avec une compagnie adjacente	A
Services interurbains monopolistiques de Telecom Canada	T

(ii) Une partie des coûts "C" est attribuée aux services de Telecom Canada, proportionnellement aux coûts spécifiquement attribuables. Elle correspond pour chaque compagnie à ce que l'on appelle la "mesure de la participation des membres" (MPM) :

$$MPM = \frac{T}{L+I+A+T} C \qquad (1)$$

(iii) Chaque compagnie visée par le PPR de Telecom Canada soumet chaque mois sa MPM à Telecom Canada. Le montant des revenus résiduels est ensuite réparti parmi les compagnies membres, proportionnellement à leur MPM.

Comme nous l'avons vu, les revenus de communications échangées avec les compagnies adjacentes sont partagés selon un mécanisme identique, sauf que leur MPM comprend une partie des coûts des appareils et des circuits proportionnelle aux coûts spécifiquement attribuables aux services des compagnies adjacentes (A), plutôt qu'aux coûts des services de "Telecom Canada" (T). Les ententes de partage des revenus sur le trafic avec les compagnies adjacentes ne comportent que deux MPM de ce genre, alors que les ententes de partage des revenus de "Telecom Canada" en comportent neuf.

Si l'on considère l'équation (1), on s'aperçoit que la MPM d'un télécommunicateur variera selon l'évolution du trafic et des coûts, pour chacune des quatre catégories de services envisagées. Toute variation de la MPM d'une compagnie membre aura un impact sur la façon dont le fonds de revenus sera réparti, même si le montant total du fonds de revenus reste le même.

B. Ententes de partage des revenus conclues entre les compagnies membres de Telecom Canada et les compagnies de téléphone indépendantes

Les compagnies de téléphone indépendantes sont des compagnies qui assurent un service téléphonique, mais qui ne sont pas membres de Telecom Canada; un grand nombre d'entre elles fournissent exclusivement des services locaux. Il existe plus de 50 compagnies indépendantes, regroupant environ 600 000 lignes d'accès. C'est en Ontario et au Québec qu'elles sont le plus nombreuses, soit 47 en tout, dont 31 en Ontario.

L'envergure des compagnies indépendantes varie beaucoup, depuis les compagnies modestes comme la Roxborough Telephone Company Limited qui comptait, au 31 décembre 1986, 429 lignes d'accès au réseau, jusqu'à des compagnies beaucoup plus grosses de l'Ontario et du Québec, comme Télébec, Québec-Téléphone et Northern Tel. En outre, la partie ouest des Territoires du Nord-Ouest, le Yukon et le nord de la Colombie-Britannique sont desservis par Norouestel et les régions rurales de Terre-Neuve, par Terra Nova. Les villes d'Edmonton, de Thunder Bay et de Prince Rupert sont desservies par des compagnies de téléphone municipales.

Revenus des services interurbains

Un grand nombre de compagnies de téléphone indépendantes ne retirent aucun revenu sur le trafic interurbain acheminé par leurs installations. Les seuls revenus interurbains qu'elles perçoivent sont ceux que leur versent les compagnies avec lesquelles elles échangent du trafic, en vertu d'ententes de partage des revenus. C'est le cas de la majorité des compagnies indépendantes de l'Ontario, dont les revenus interurbains proviennent des ententes de partage qui les lient à

Bell Canada ou à Ontario Northland. Ontario Northland échange, à son tour, du trafic avec Bell Canada et Télébec, et pratiquement tous ses revenus proviennent des services interurbains.

D'autres compagnies indépendantes possèdent d'importantes installations interurbaines : une partie de leurs revenus du service interurbain leur est propre et une autre leur revient après partage. C'est le cas de Télébec et de Québec-Téléphone. Ces deux compagnies relativement importantes exploitent des réseaux très étendus et comptent à elles seules pour près de 95 % des revenus de l'industrie téléphonique indépendante au Québec. En outre, à la différence des compagnies indépendantes de l'Ontario, les compagnies du Québec ne suivent pas nécessairement les échelles tarifaires de Bell Canada pour le SICT.

Les compagnies indépendantes sont aussi liées aux télécommunicateurs auxquels elles se raccordent par des ententes relatives au trafic et au partage des revenus. Prince Rupert City Tel a, par exemple, conclu des ententes avec B.C. Tel, et "edmonton telephones" avec AGT. Les principaux mécanismes de partage des revenus sont décrits ci-après.

Processus de partage des revenus de l'interurbain

Les ententes de partage des revenus de l'interurbain doivent obtenir l'approbation des organismes de réglementation compétents. Il existe quatre grandes catégories d'ententes liant les compagnies membres de Telecom Canada et les compagnies de téléphone indépendantes : i) ententes portant sur les commissions et le parcours de ligne; ii) ententes portant sur les commissions et la répartition proportionnelle; iii) ententes portant sur les droits comptables; et iv) ententes portant sur les commissions seulement.

(i) Ententes portant sur les commissions et le parcours de ligne

C'est la formule de partage des revenus interurbains la plus utilisée par les compagnies de téléphone qui ne possèdent pas ou que très peu d'installations intercirconscriptions pour l'acheminement du trafic interurbain. La grande majorité des petites compagnies indépendantes du Québec et de l'Ontario sont liées à Bell Canada par ce type d'entente. C'est également le cas de Thunder Bay Telecommunications et de Télébec Ltée (pour une partie de sa zone de desserte). Quant à "edmonton telephones", elle est liée à AGT, en vertu d'une décision arbitrale de 1987 sur les services interurbains, par une entente qui est une version modifiée de ce type d'entente avec Bell Canada.

Ce type d'entente comprend habituellement deux parties. Premièrement, une commission est versée à la compagnie de téléphone indépendante qui assure le départ ou l'acheminement d'une communication interurbaine. Deuxièmement, la compagnie indépendante reçoit un paiement pour le parcours de ligne, en contrepartie de l'utilisation de ses installations intercirconscriptions.

Quant aux commissions, les compagnies indépendantes reçoivent une commission de type "A", fonction du revenu moyen par communication (RMPC) dans le cas des appels effectués à partir de leur territoire. Elles reçoivent une commission de type "B", ou commission d'exploitation, en contrepartie de l'exécution de certaines fonctions opérationnelles, comme les fonctions de commutation, par exemple. Le montant des commissions de types "A" et "B" augmente en même temps que le RMPC, mais son augmentation n'est pas directement proportionnelle à celles du RMPC. Les commissions de type "A" constituent le plus gros montant de l'entente.

En vertu des ententes de trafic conclues entre Bell Canada et les compagnies indépendantes de l'Ontario, celles-ci doivent appliquer les mêmes tarifs interurbains que Bell Canada. Cependant, en vertu d'autres ententes, comme celles qui lient Bell Canada et les compagnies indépendantes du Québec, les compagnies indépendantes peuvent appliquer leurs propres échelles de tarifs interurbains, qui peuvent être différentes de celles de Bell Canada. Dans ce dernier cas, la compagnie qui applique des tarifs plus élevés est autorisée à garder 100 % de la différence.

En vertu de certaines ententes conclues entre Bell Canada et les compagnies indépendantes, un facteur de pondération est appliqué au trafic de départ des petites compagnies indépendantes afin de compenser le niveau plus élevé des coûts d'exploitation de certaines compagnies. Une pondération est appliquée à l'augmentation des commissions versées aux compagnies indépendantes, par le truchement d'un tableau de "facteurs petits centraux", dans le cas des compagnies effectuant un maximum de 4 000 communications de départ par mois, et d'un tableau de "facteurs petites compagnies", dans le cas des compagnies ayant au maximum 3 000 services d'accès au réseau. Finalement, un facteur d'ajustement est appliqué aux communications de départ, afin de permettre à la compagnie indépendante de garder le pourcentage des revenus auxquels elle a droit sur les appels de départ, en cas de changement du barème des tarifs du SICT de Bell Canada pour les appels interurbains. Ce facteur d'ajustement permet de compenser la relation non linéaire qui existe entre le RMPC et la commission de type "A", de façon à ce que la compagnie garde le même pourcentage de revenus en cas de changement des tarifs interurbains. Lorsque Bell Canada augmente les tarifs du SICT, le facteur d'ajustement permet d'augmenter le montant des revenus partageables d'un montant supérieur à celui des commissions de type "A", de façon à ce que le pourcentage des revenus attribuables à la compagnie ne diminue pas. Cependant, ce même facteur joue au détriment des compagnies de téléphone indépendantes en cas de diminution des tarifs du SICT, dans la mesure où le pourcentage des revenus qui leur est attribuable est inférieur à ce qu'il aurait été autrement.

(ii) <u>Ententes portant sur les commissions et la répartition proportionnelle</u>

Ce plan de partage des revenus vise les compagnies de téléphone indépendantes les plus importantes, qui possèdent des installations

interurbaines considérables pour acheminer le trafic interurbain. Comme pour le plan de partage précédent, chaque compagnie reçoit une commission de type "A" pour chaque appel de départ et une commission de type "B" pour tous les appels acheminés; cependant, le reste des revenus est partagé proportionnellement entre les deux compagnies concernées, en fonction des installations interurbaines fournies par chacune. Le montant de cette répartition proportionnelle est fonction des résultats d'études de trafic périodiques.

Voici des exemples de compagnies liées par ce type d'entente de partage :

- Québec-Téléphone/Bell Canada;
- Télébec/Bell Canada (pour une partie de la zone de desserte de la première);
- Terra Nova Tel/Newfoundland Tel;
- Québec-Téléphone/NBTel; et
- Norouestel/B.C. Tel.

En vertu du plan de partage entre Bell Canada et les compagnies indépendantes, toute variation des tarifs du SICT a une incidence sur le RMPC, celui-ci étant la base du calcul des commissions de types "A" et "B". Comme dans le cas des ententes portant sur les commissions et le parcours de ligne, les augmentations des commissions ne sont pas directement proportionnelles aux augmentations du RMPC. En cas de hausse comme de baisse des tarifs interurbains, la compagnie de téléphone indépendante reçoit un pourcentage inférieur des revenus partageables. Pour ce qui est de la répartition proportionnelle du reste des revenus, l'impact d'une variation des tarifs interurbains sera proportionnel à cette variation, moins l'impact dû aux commissions.

Une diminution des tarifs du SICT a, dans l'ensemble, pour effet de faire baisser le montant des revenus partageables, mais cet impact varie pour chacune des deux compagnies concernées, selon que l'une ou l'autre exécute la plus grande partie des fonctions opérationnelles interurbaines, ou possède la majeure partie des installations utilisées pour l'acheminement du trafic.

(iii) <u>Ententes portant sur les droits comptables</u>

En vertu de ce type d'entente, chaque compagnie garde ses revenus provenant des communications tarifées. Pour le trafic dont le point de départ se trouve dans le territoire d'une compagnie et le point d'arrivée dans celui de l'autre, si le trafic de départ n'est pas identique dans les deux sens, la compagnie dont le trafic de départ est moindre reçoit en compensation des droits comptables par minute. Pour le trafic dont le point de départ se trouve dans le territoire d'une compagnie et le point d'arrivée au-delà du territoire desservi par l'autre, un droit de transit supplémentaire est versé à la compagnie qui achemine le trafic. C'est, par exemple, le cas du trafic destiné

aux États-Unis mais dont le point de départ se trouve dans le territoire de Norouestel et dont l'acheminement passe par la zone de desserte d'AGT.

Norouestel a conclu ce type d'entente avec AGT, afin de partager les revenus provenant du trafic avec les compagnies adjacentes, du trafic Norouestel-Telecom Canada, du trafic de transit Alaska-Canada et du trafic Norouestel-États-Unis.

(iv) Ententes portant sur les commissions

En vertu de ce type d'entente, le télécommunicateur reçoit, pour les appels originant de sa zone de desserte, soit un pourcentage constant des revenus du trafic interurbain de départ, soit un montant fixe (commission) pour chaque communication interurbaine de départ. B.C. Tel et Prince Rupert City Tel sont liées par ce type d'entente. Prince Rupert perçoit les revenus provenant des services interurbains qu'elle offre à ses abonnés et reçoit 0,77 $ pour chaque communication tarifée, ainsi qu'un montant moins élevé pour chaque appel WATS. Elle reçoit également un montant fixe, en contrepartie de la prestation de services EAN et autres services.

C. Ententes de partage des revenus conclues entre les compagnies de téléphone et les télécommunicateurs américains

Pour ce qui est du trafic Canada-États-Unis, les compagnies de téléphone canadiennes n'ont pas conclu d'ententes séparées de partage des revenus avec les télécommunicateurs américains. (L'entente de partage entre Norouestel et Alascom Inc. est une exception.) En revanche, chaque compagnie membre de Telecom Canada est indemnisée conformément au PPR. Les autres compagnies de téléphone concluent à leur tour des ententes avec les compagnies auxquelles elles se raccordent et membres de Telecom Canada qui acheminent le trafic jusqu'aux États-Unis. Ces ententes sont fonction des contrats d'interconnexion négociés entre les télécommunicateurs concernés. Par exemple, Norouestel est liée à AGT par une entente fondée sur la méthode des droits comptables et à B.C. Tel par une entente fondée sur la méthode des commissions et de la répartition proportionnelle.

Pour la prestation du SICT, Telecom Canada a conclu des ententes avec AT&T, MCI, U.S. Sprint et d'autres télécommunicateurs interurbains américains. Telecom Canada a également conclu avec AT&T plusieurs ententes auxiliaires de partage des revenus provenant d'autres services, notamment le WATS, le service 800 et les services de ligne directe. Elle est également liée à d'autres télécommunicateurs américains, concernant la prestation d'autres services, comme les services transfrontaliers de transmission par satellite. L'entente conclue entre Telecom Canada et AT&T pour le partage des revenus du SICT est résumée ci-après.

Avant 1986, AT&T et Telecom Canada appliquaient un barème tarifaire commun, mutuellement accepté, pour tous les appels effectués entre les États-Unis et le Canada. Le partage des revenus se faisait conformément à un ratio basé sur des coûts de 51,74 % pour Telecom Canada et de 48,26 % pour AT&T.

En vertu de l'entente en vigueur à l'heure actuelle, pour la période allant du 1er janvier au 30 juin 1986, la compagnie facturant le plus grand nombre de minutes de communications tarifées versait à l'autre la somme de 0,21 $ US par minute, pour l'écart existant au niveau du nombre de minutes de communications tarifées. Le 1er juillet 1986, est entrée en vigueur une entente faisant une distinction entre les appels effectués pendant les heures de pointe et en dehors des heures de pointe. Pour le trafic effectué pendant les heures de pointe, l'entente a continué d'être de 0,21$ US par minute, mais ce montant a été rabaissé à 0,19 $ US par minute pour le trafic effectué en dehors des heures de pointe. La période de pointe s'étendait de 8 h à 18 h, du lundi au vendredi. La compagnie facturant le plus grand nombre d'appels à frais virés doit payer la somme de 1,32 $ US par appel à l'autre partie, pour la différence du nombre d'appels de ce genre. Enfin, la compagnie effectuant le plus grand nombre d'appels d'assistance-annuaire de l'interurbain doit payer la somme de 0,50 $ US par appel à l'autre partie, pour la différence du nombre de ces appels.

D. Ententes de partage des revenus conclues entre et les compagnies de téléphone et Téléglobe Canada

De même que pour le trafic Canada-États-Unis, il n'existe pas d'ententes directes de partage des revenus entre les compagnies de téléphone canadiennes et Téléglobe, pour le trafic Canada-outre-mer. Chaque compagnie membre de Telecom Canada est indemnisée par le truchement du PPR. Les autres compagnies de téléphone sont, à leur tour, indemnisées en vertu des ententes conclues avec les compagnies membres de Telecom Canada qui acheminent le trafic. Par exemple, Norouestel a conclu avec B.C. Tel et AGT des ententes de partage des revenus provenant du trafic Canada-outre-mer.

Telecom Canada a conclu avec Téléglobe Canada une entente de partage des revenus du SICT Canada-outre-mer. Telecom Canada a également conclu plusieurs ententes auxiliaires relatives au partage des revenus du TWX, des services de ligne directe, du Datapac/Globedat, des services de vidéo-conférence, etc.

Comme exemple du fonctionnement du partage, les paiements revenant à Telecom Canada pour le trafic du SICT acheminé jusqu'au point de raccordement de Vancouver sont les suivants :

(TARIF EN CENTS PAR MINUTE)

			APPEL DE POSTE A POSTE
	APPEL DE PERSONNE A PERSONNE	APPEL ACHEMINÉ PAR LE TÉLÉPHONISTE	APPEL COMPOSÉ PAR L'ABONNÉ
Plein tarif	73,16	68,16	66,59
Tarif réduit	60,48	55,48	54,20

Le paiement versé par Téléglobe Canada à Telecom Canada vise à indemniser les compagnies de téléphone membres ayant assuré l'accès local et l'acheminement jusqu'aux centres de transit internationaux de Téléglobe.

ANNEXE D

GLOSSAIRE DE TERMES TECHNIQUES CHOISIS

ACCÈS COMMUTÉ – Lorsque le réseau téléphonique public commuté est utilisé pour raccorder l'abonné à un service de transmission de données ou de la voix offert par un autre fournisseur.

ACCÈS SANS SUPPLÉMENT – Aux États-Unis, expression décrivant l'accès commuté (circonscription ne donnant pas l'égalité d'accès) que fournissent les compagnies de téléphone à d'autres transporteurs publics et qui est de qualité inférieure à celui qui est offert à AT&T.

ACCÈS SPÉCIALISÉ – Lorsqu'une ligne est réservée à un seul utilisateur pour raccorder l'équipement se trouvant chez l'utilisateur au service de transmission de la voix ou de données du concurrent.

AMORTISSEMENT – Méthode de répartion des coûts d'actifs sur leur vie utile de manière qu'il soit possible de suivre des politiques de comptabilité et de prix stables et réalistes.

ANALOGIQUE – Une des deux formes fondamentales (l'autre étant numérique) utilisées pour coder l'information à des fins de transmission et de commutation. L'information est surimposée sur un signal dont l'amplitude, la fréquence ou la phase varie de façon continue.

ARBITRAGE – Dans le contexte du présent rapport, pratique qui consiste à acheter en gros et à vendre au détail. Voir Revendeurs.

AUTRES TRANSPORTEURS PUBLICS – Aux États-Unis, les transporteurs publics interurbains, autres qu'AT&T et les indépendantes, les télécommunicateurs intérieurs et internationaux ainsi que les télécommunicateurs par satellite intérieurs offrant des services téléphoniques de ligne directe, de données, sonores ou vidéo, etc.

BASE TARIFAIRE – Total de l'investissement auquel est appliqué le taux de rendement autorisé d'un télécommunicateur réglementé.

BELL SYSTEM – Toute l'organisation d'AT&T avant 1984, y compris Bell Labs, Long Lines, Western Electric et les 22 compagnies exploitantes locales de Bell, plus Cincinnati Bell et Southern New England Telephone (ces deux dernières n'appartenaient pas en majorité à AT&T).

BIT (CHIFFRE BINAIRE) – Unité d'information pouvant être représentée par un ou l'autre des deux états physiques ou logiques distincts (p. ex., 0/1, ouvert/fermé, en haut/en bas).

BITS/S (Bits par seconde) – Unité de mesure du rythme auquel l'information numérique est transmise sur une voie de communications.

CABLE – Installations de transmission de messages consistant en de nombreuses paires de conducteurs isolés assemblés de façon compacte et protégés par une gaine souple et étanche.

CABLE COAXIAL – Câble dont le fil conducteur central isolé est recouvert d'une gaine protégeant le signal contre les interférences électriques.

CEB – Voir Compagnies exploitantes de Bell.

CELLNET – Association d'affiliées cellulaires de compagnies de téléphone exploitant au Canada qui coordonnent les services radio cellulaire dispensés par les compagnies de téléphone.

CENTRAL – Bâtiment abritant de l'équipement de commutation téléphonique où les lignes d'abonnés se terminent et sont interconnectées.

CENTRAL INTERURBAIN – Centre où les appels interurbains sont commutés.

CENTRAL PRIVÉ (PBX) – Système de commutation téléphonique privé installé chez un abonné et qui fournit des raccords entre des terminaux qui lui sont reliés, et généralement, entre ces terminaux et d'autres réseaux. Un PBX automatisé (PABX) permet la commutation sans l'aide d'un préposé et est le genre de PBX le plus généralement en usage.

CENTRE DE COMMUTATION – Bâtiment qui abrite un ou plusieurs centraux.

CENTRE DE TRANSIT – Central utilisé strictement pour relier ensemble d'autres centraux. Un raccord de transit local peut être utilisé dans une zone à forte densité lorsqu'il n'est pas rentable d'offrir une interconnexion directe entre tous les centres locaux.

CENTRE LOCAL – Central auquel des lignes d'accès d'abonnés sont raccordées.

CENTRE TARIFAIRE – Point géographique d'une circonscription utilisé pour calculer la distance qui la sépare d'autres circonscriptions (pour calculer les tarifs basés sur la distance entre les circonscriptions).

CENTREX – Service de PBX (voir ci-dessous) fourni par une compagnie de téléphone au moyen de l'équipement installé dans son central.

CIRCONSCRIPTION D'ARRIVÉE – Pour un appel particulier, le central auquel la ligne de l'abonné appelé est raccordée.

CIRCUIT – Installation reliant deux commutateurs qui peut être utilisée pour transmettre des messages ou des appels entre eux (un à la fois).

CIRCUIT DE TRANSIT – Circuit à destination ou en provenance d'un centre de transit.

CIRCUIT LOCAL – Installations reliant l'équipement se trouvant chez l'abonné au central de la compagnie de téléphone. Elles comprennent : (1) au moins un dispositif de raccordement, habituellement une prise; (2) le câblage intérieur à la (aux) prise(s); (3) un dispositif de protection; (4) le câble de branchement; (5) un raccordement aux installations extérieures; et (6) des installations extérieures jusqu'au central.

CIRCUIT PBX – Circuit utilisé pour interconnecter un central privé au centre local.

COMMUTATION – Raccordement provisoire entre la source d'information et sa destination prévue par l'intermédiaire de divers dispositifs de transmission.

COMMUTATION NUMÉRIQUE – Processus par lequel des signaux numériques sont raccordés du départ à l'arrivée sans être convertis dans une autre forme.

COMMUTATION PAR PAQUETS – Méthode de transmission de données qui divise les messages en petites pièces qui sont envoyées indépendamment par le réseau puis réassemblées à la réception.

COMMUTÉ PAR CIRCUIT – Décrit une situation où la source et la destination sont physiquement reliées par un circuit pendant la durée de la communication par l'entremise d'un centre de commutation.

COMPAGNIES EXPLOITANTES DE BELL (CEB) – Compagnies de téléphone réglementées qui, avant d'être démantelées, appartenaient à AT&T. Après avoir été aliénées le 1er janvier 1984, les CEB ont été groupées en sept holdings régionaux de Bell (HRB).

COMPOSITION – Terme utilisé pour exprimer le fait d'accéder à un service par l'entremise d'un réseau téléphonique public commuté en composant un numéro de téléphone.

COMPOSITION INTERURBAINE AUTOMATIQUE – Processus par lequel l'utilisateur compose directement des numéros de téléphone à l'extérieur de son secteur d'appel local sans l'aide d'un téléphoniste.

COURRIER ÉLECTRONIQUE – Messages envoyés entre des terminaux sous le contrôle d'ordinateurs. Généralement, un tel service permet la création, le retrait, la modification et le stockage des messages.

COURTE DISTANCE – Se dit du trafic interurbain s'étendant sur une distance limitée par opposition à une longue distance.

COÛT D'ACCÈS – Coût de prestation d'installations de lignes d'accès.

COÛTS NON SENSIBLES AU TRAFIC (NST) – Investissement et coûts d'exploitation, y compris l'amortissement et le rendement sur l'investissement, associés aux installations de compagnies de téléphone, dont ni l'existence ni le montant ne varie selon le trafic (c'est-à-dire le nombre d'appels, les minutes d'utilisation) du système téléphonique.

COÛTS SENSIBLES AU TRAFIC – Coûts qui varient en fonction des volumes de trafic.

DÉCISION "ABOVE 890" – Décision de la Federal Communications Commission (FCC) américaine rendue en 1959 et autorisant les entreprises à construire des systèmes de micro-ondes privés utilisant des fréquences radio "de plus de 890 mégahertz."

DÉCISION DE CONSENTEMENT – (Au Canada, ordonnances de consentement.) Jugement de la Cour qui donne effet à l'entente conclue entre deux parties et qui en prescrit la portée dans le but de régler des poursuites que l'une a intentées contre l'autre. Deux décisions de consentement particulières ont influé énormément sur la structure de l'industrie des télécommunications américaine.

DÉCISION DE CONSENTEMENT de 1956 – Règlement judiciaire entre Bell System et le gouvernement fédéral américain mettant fin à une affaire anti-trust qui a duré sept ans. En résumé, elle a limité Bell System à offrir des services de communications, dont les frais sont assujettis à la réglementation, et à fabriquer uniquement de l'équipement destiné à la prestation de ces services. Par exception, il est permis à Bell System d'effectuer tout genre de travail pour le gouvernement américain ainsi qu'à se livrer à des activités "secondaires" pour la prestation de services de transporteur public de communications. Le 8 janvier 1982, le U.S. Department of Justice et AT&T ont convenu d'abandonner la décision de consentement de 1956 dans son entier et de la remplacer par une modification.

DÉCISION DE CONSENTEMENT de 1982 – Convenue par AT&T et le U.S. Department of Justice le 8 janvier 1982 et approuvée par le juge Harold Greene de la U.S. District Court le 24 août 1982, elle obligeait AT&T à se défaire de suffisamment d'installations, de groupes de personnel et de droits à l'information technique au sein des compagnies exploitantes de Bell (CEB) pour permettre à celles-ci de remplir, indépendamment d'AT&T, des fonctions de télécommunications locales, d'accès à des circonscriptions locales, d'impression d'annuaires "Pages Jaunes". AT&T a conservé Western Electric, Bell Labs et Long Lines et elle assumait les activités interurbaines interLATA des CEB ainsi que l'équipement en place chez l'abonné. Les licences et les contrats d'approvisionnement normalisés avec les CEB, Southern New England Telephone et Cincinnati Bell ont pris fin. Après la réorganisation d'AT&T, les CEB se sont vu interdire d'exercer une discrimination en faveur d'AT&T et de ses produits et services à l'égard de l'accès aux circonscriptions locales et à l'information, de l'approvisionnement, de la dissémination de données et de normes techniques, de l'interconnexion et de l'utilisation d'installations des CEB, ainsi que de la planification de nouveaux services et installations.

DÉMANTÈLEMENT – Aux États–Unis, processus qui a divisé l'actif d'AT&T de manière que ses 22 compagnies de téléphone exploitantes locales soient réparties en sept holdings régionaux de Bell (HRB) tandis qu'AT&T conservait le contrôle des services interurbains, de la fabrication et de la recherche. Voir Décision de consentement de 1982.

DISCRIMINATION – Traitement différentiel qu'un transporteur public accorde aux abonnés, aux services ou à la prestation d'installations.

EAN – Voir Enregistrement automatique des numéros.

ÉCONOMIES D'ÉCHELLE – Existent si une augmentation du niveau de production s'accompagne d'une augmentation moins que proportionnelle du total des coûts. Autrement dit, les coûts moyens à long terme diminuent continuellement pour l'ensemble de la production de l'industrie et ne sont pas épuisés par le total des ventes de marché.

ÉCONOMIES DE PORTÉE – Existent lorsque la production d'une combinaison de deux ou de plusieurs services distincts à l'intérieur d'une firme résultent en des coûts plus faibles que la production de chaque service séparément par des entreprises individuelles. Les économies de portée résultent du partage des installations, du travail et(ou) de la gestion entre deux ou plusieurs produits ou services.

ÉCRÉMAGE – Situation dans le cadre de laquelle les fournisseurs du marché peuvent choisir de desservir uniquement les zones les plus rentables (c'est–à–dire, la "crème") du marché – par exemple, les routes à fort volume et de coûts plus faibles– tout en ignorant les zones dans lesquelles il en coûte davantage pour offrir les services.

ÉGALITÉ D'ACCÈS – Arrangement qui permet aux abonnés du service téléphonique d'avoir accès à différentes compagnies de services interurbains avec une facilité et une qualité égales de raccordement.

ÉLASTICITÉ DE LA DEMANDE PAR RAPPORT AUX PRIX – Une mesure de la variation des quantités demandées par rapport aux variations de prix, tous les autres facteurs étant constants. Elle se définit comme le changement procentuel dans la quantité demandée d'un produit divisé par le changement procentuel du prix de ce produit. Les économistes définissent trois ordres d'élasticité de la demande soit : (1) demande élastique – lorsque les prix baissent et que la demande augmente plus que proportionnellement; (2) demande inélastique des prix – lorsque les prix baissent et que la demande augmente moins que proportionnellement; et (3) élasticité unitaire – Lorsque les prix baissent et que la demande augmente proportionnellement, laissant les revenus intacts.

ENFIA (Exchange Network Facilities for Interstate Access) (Accès interétats par l'intermédiaire des installations de téléphone) – Aux États–Unis, tarif interétats prédémantèlement de Bell System négocié avec d'autres télécommunicateurs qui s'appliquait aux installations interconnectant les circuits des télécommunicateurs interurbains aux installations de commutation de circonscription locale appartenant à des compagnies de téléphone locales. Adopté par la FCC (en 1979), il a été remplacé par le Plan de frais d'accès interétats de la FCC, lequel a été adopté en mai 1984.

ENREGISTREMENT AUTOMATIQUE DES NUMÉROS (EAN) – Identification et enregistrement, sans intervention humaine, du numéro de téléphone de la ligne de départ d'un appel.

ÉQUIPEMENT D'ABONNÉ – Équipement tels les appareils téléphoniques et les systèmes de centraux privés se trouvant chez l'abonné.

ÉQUIPEMENT TERMINAL – Appareil ou équipement généralement localisé chez l'abonné raccordé à un réseau de communications, par l'intermédiaire duquel un utilisateur envoie des messages et les reçoit.

ÉTABLISSEMENT DE TARIFS MOYENS – Pratique de réglementation d'établissement de tarifs uniformes pour le même service plutôt que de tarifs différents basés sur des coûts différents, par exemple, pour des routes de trafic ou des endroits différents.

ÉTABLISSEMENT DES PRIX À LA VALEUR DU SERVICE – Principe de fixation de prix par lequel les frais pour un service particulier sont reliés à la valeur notionnelle de services à un abonné plutôt que sur la base des coûts de causalité. Il est largement utilisé en pratique dans le cas des services locaux, où il constitue la base prescrite de la structure de groupes tarifaires et pour les différences entre les tarifs des services de résidence et d'affaires.

ÉTABLISSEMENT DE TARIFS MOYENS DE ROUTE – Processus d'établissement de frais égaux des services interurbains pour tous les appels d'une même classe et de distance égale.

ÉVITEMENT – Utilisation par les abonnés de solutions de rechange à certains services locaux et interurbains fournis par des télécommunicateurs. Il peut s'agir de technologies d'évitement et d'installations de service comme la radio cellulaire, les micro–ondes et le satellite.

EXECUNET – Aux États–Unis, service de type SICT commuté public interétats, introduit par MCI en 1975.

FAC–SIMILÉ (FAX) – Transmission d'images, de cartes, de diagrammes, etc., par des circuits de communications. L'image est balayée à l'émission, reconstituée à la station réceptrice puis reproduite (sur papier).

FIBRES OPTIQUES – Système de transmission de l'information utilisant des faisceaux de lumière de grande pureté, sur des fibres de verre de la grosseur d'un cheveu. Ce système est particulièrement indiqué pour le transfert de forts volumes d'information.

FLA – Voir Frais de ligne d'abonné.

FLCT – Voir Frais de ligne commune des télécommunicateurs.

FRAIS D'ACCÈS – Aux États-Unis, montant qu'un télécommunicateur interurbain doit payer à une compagnie de téléphone locale pour avoir accès au réseau local. Par exemple, voir Frais de ligne commune des télécommunicateurs. (Les frais de ligne d'abonné sont parfois considérés comme des frais d'accès).

FRAIS DE LIGNE COMMUNE DES TÉLÉCOMMUNICATEURS (FLCT) – Aux États-Unis, frais d'accès sensibles à l'utilisation imposés aux télécommunicateurs interurbains en vue de recouvrer certains coûts non sensibles au trafic de juridiction inter-états (fédérale).

FRAIS DE LIGNE D'ABONNÉ (FLA) – Aux États-Unis, surtaxe mensuelle fixe permettant de recouvrer une partie des coûts d'accès. Les FLA sont calculés par la FCC et recouvrent une partie des coûts d'accès non sensibles au trafic de juridiction interétats. Le reste de ces coûts qui ne sont pas recouvrés par les FLA le sont par les frais de ligne commune des télécommunicateurs.

HOLDINGS RÉGIONAUX DE BELL – Les sept holdings créés par la décision de consentement de 1982 qui statuait sur la cause d'anti-trust du ministère de la Justice contre AT&T. Les sept compagnies et leurs filiales respectives sont : (1) NYNEX Corporation (New York Telephone Company et New England Telephone Company); (2) Bell Atlantic Corporation (New Jersey Bell, Bell of Pennsylvania, Diamond State Telephone, et Chesapeake and Potomac Telephone Companies of Maryland, Virginia, West Virginia et le District of Colombia; (3) BellSouth Corporation (Southern Bell and South Central Bell); (4) Ameritech Corporation (Michigan Bell, Ohio Bell, Indiana Bell, Illinois Bell, et Wisconsin Telephone Company); (5) Southwestern Bell Corporation (Southwestern Bell Telephone Company); (6) U.S. West (Northwestern Bell, Mountain Bell et Pacific Northwest Bell); et (7) Pacific TELESIS Group (Pacific Bell et Nevada Bell). Les deux anciennes compagnies de Bell System, Southern New England Telephone et Cincinnati Bell, Inc., n'appartenaient pas en majorité à AT&T et n'étaient pas considérées comme des CEB aux fins des diverses restrictions imposées par le règlement anti-trust sur les types du marché.

INTERCONNEXION – Terme qui décrit le raccordement des installations d'un réseau de télécommunications à celles d'un autre.

INTERFINANCEMENT – Pratique qui consiste à utiliser les bénéfices générés par un produit ou un service pour en soutenir un autre.

INTERPROVINCIAL/INTERTERRITORIAL – Adjectif utilisé pour décrire des services, des revenus, des fonctions, etc., qui se rapportent aux télécommunications en provenance et à destination d'une province ou d'un territoire et qui visent plus d'une compagnie de téléphone.

INTRAPROVINCIAL/INTRATERRITORIAL – Adjectif utilisé pour décrire des services, des revenus, des fonctions, etc., associés aux télécommunications en provenance et à destination d'une seule province, d'un seul territoire ou de la zone de desserte d'une compagnie de téléphone.

INWATS (Inward Wide Area Telephone Service) (SIP d'arrivée) – Voir Service 800.

LATA – Voir Zone locale de transport et d'accès.

LIGNE À PLUSIEURS ABONNÉS – Ligne d'accès servant à plus d'un abonné; généralement utilisée pour décrire une ligne qui dessert plusieurs abonnés. Si le nombre maximal d'abonnés desservis est deux ou quatre, l'expression plus précise normalement utilisée est ligne "à deux abonnés" et ligne "à quatre abonnés", respectivement.

LIGNE COMMUTÉE – Liaison de communications pour laquelle un circuit est établi sur une base d'appels individuels au moyen d'un commutateur d'une compagnie de téléphone.

LIGNE D'ABONNÉ – Voir Ligne d'accès.

LIGNE D'ACCÈS – Liaison physique qui relie l'équipement se trouvant chez l'abonné au central d'une compagnie de téléphone pour permettre de faire des appels. Également appelée ligne d'abonné.

LIGNE DE CIRCUIT – Partie de l'équipement d'un central à laquelle des lignes d'accès d'abonnés sont raccordées.

LIGNE DE JONCTION – Circuit raccordant directement deux pièces d'équipement de commutation réservées à l'utilisation d'un seul abonné.

LIGNE LOUÉE – Lien de télécommunication entre deux points utilisé exclusivement par un seul abonné moyennant des frais. Également appelé ligne directe.

LONG PARCOURS – Se dit du trafic interurbain s'étendant sur une distance importante (par opposition au trafic à courte distance).

MÉTHODE DE PARTAGE DES REVENUS – Aux États-Unis, système de répartition des revenus de l'interurbain intraétat et interétats entre les compagnies exploitantes de Bell System et AT&T Long Lines, avant le démantèlement.

MÉTHODE DE PARTAGE DES REVENUS – Procédure par laquelle les revenus sont distribués entre les télécommunicateurs pour des services qui peuvent être fournis conjointement.

MODIFICATION DE LA DÉCISION FINALE – Décision promulguée en 1982 par la Cour fédérale américaine du District of Columbia qui rendait formelles les conditions de démantèlement d'AT&T ainsi que les restrictions imposées aux compagnies exploitantes de Bell. Voir également la Décision de consentement de 1982.

MONOPOLE NATUREL – Une industrie se définit comme un monopole naturel si une seule entreprise est capable de réaliser la production de l'industrie à un coût total moindre que deux ou plusieurs entreprises.

NATIONAL EXCHANGE CARRIER ASSOCIATION (NECA) – Organisme américain de compagnies de téléphone, comprenant les compagnies exploitantes de Bell, fournissant le service local qui : (a) dépose les tarifs conjoints pour l'accès au réseau local par les fournisseurs de services interrubains de long parcours, (b) perçoit et paie les frais des télécommunicateurs pour l'accès au réseau local, et (c) gère la mise en commun des revenus pour les compagnies qui décident de se regrouper pour fournir, à des tarifs uniformes, d'autres éléments d'interconnexion de télécommunications.

NIVEAU DE PÉNÉTRATION – Pourcentage de ménages recevant le service téléphonique local. Il s'agit de la mesure de l'accessibilité du service téléphonique la plus utilisée. Un niveau de pénétration de 100 % indiquerait que tous les ménages du pays ont le service téléphonique.

NUMÉRIQUE – Une des deux formes fondamentales (l'autre étant analogique) utilisée pour coder l'information à des fins de transmission et de commutation. Conversion d'une information dans une séquence d'éléments choisis à partir d'une petite série de symboles (souvent des bits).

OUTWATS (Outward Wide Area Telephone Service) (SIP de départ) – Voir WATS.

PBX – Voir Central privé.

PLAN DE NUMÉROTATION RÉGIONALE (PNR) – Zone géographique en Amérique du Nord à laquelle un "indicatif de région" de trois chiffres a été donné. Chaque numéro de téléphone en Amérique du Nord comprend un indicatif suivi de sept chiffres. On peut omettre l'indicatif régional lorsque l'on compose un numéro dans la même région.

PLAN DE PARTAGE DES REVENUS (PPR) – Introduit en 1977, le PPR est utilisé pour diviser entre les compagnies membres les revenus des appels faits entre les zones de desserte des compagnies de Telecom Canada.

POINT D'OCCUPATION – Point d'interconnexion entre les installations d'une compagnie de téléphone et un télécommunicateur interurbain.

POSTE SUPPLÉMENTAIRE HORS LIEUX – Poste supplémentaire dans des locaux éloignés du service principal d'un abonné qui peuvent même être dans une ville éloignée. Cela permet à l'abonné du poste supplémentaire d'avoir accès aux services téléphoniques local et interurbain comme s'ils se trouvaient dans les locaux du service principal.

PPR – Voir Plan de partage des revenus.

PRÉABONNEMENT – Aux États–Unis, entente par laquelle un abonné particulier peut désigner un télécommunicateur interurbain dont les des installations seront normalement utilisées pour acheminer les appels interLATA. En vertu des modalités de la Modification de la décision finale, les CEB sont tenues d'offrir des choix de préabonnement dans tous les centraux dotés de l'égalité d'accès.

QUALITÉ VOCALE – Expression utilisée pour décrire des installations servant à la transmission d'un signal téléphonique (300 Hz à 3 400 Hz).

RACCORDEMENT DE CIRCUIT – Raccordement à un réseau au moyen d'un circuit.

RACCORDEMENT DE LIGNES – Méthode de raccordement des réseaux des télécom–municateurs interurbains aux réseaux de compagnies de téléphone locales en utilisant des lignes d'accès d'abonnés (le télécommunicateur est considéré comme un abonné).

RACCORD DE TRANSIT – Décrit un raccord dans lequel un ou plusieurs commutateurs sont utilisés en plus des centres de départ et d'arrivée.

RADIO MICRO–ONDES – Système de transmission radio utilisant de très courtes longueurs d'ondes qui sont relativement efficaces pour des volumes de trafic moyens ou élevés.

RADIOTÉLÉCOMMUNICATEUR – Compagnie autorisée à offrir au public un service de téléappel unidirectionnel ou de communication radiomobile bidirectionnelle.

RADIOTÉLÉPHONE – Émetteur/récepteur radio utilisé pour les communications téléphoniques bidirectionnelles.

RÉÉQUILIBRAGE DES TARIFS – Mesure visant à faire correspondre les tarifs des services de télécommunications à leurs coûts connexes. Cela donnerait lieu, selon certaines compagnies de téléphone, à des tarifs du SICT/WATS beaucoup plus bas et à des tarifs locaux sensiblement supérieurs, tout en maintenant les revenus nets de la compagnie au même niveau.

RÉGLEMENTATION SELON LE TAUX DE RENDEMENT SUR LA BASE TARIFAIRE – Méthode de réglementation par laquelle un télécommunicateur est limité dans ses activités à un niveau de revenus qui ne recouvrera que ses dépenses plus un taux de rendement autorisé sur sa base tarifaire.

RÉSEAU – Ensemble d'installations interconnectant plusieurs points. Les réseaux peuvent être publics (offerts à tous les utilisateurs, généralement sur une base commutée) ou privés (réservés à un seul utilisateur ou à un groupe d'utilisateurs).

RÉSEAU À VALEUR AJOUTÉE (RVA) – Réseau par l'intermédiaire duquel des services à valeur ajoutée sont fournis.

RÉSEAU NUMÉRIQUE À INTÉGRATION DE SERVICES (RNIS) – Réseau numérique de bout en bout qui fournit une gamme d'applications téléphoniques et non téléphoniques par l'entremise d'un petit nombre d'interfaces standard.

RÉSEAU TÉLÉPHONIQUE PUBLIC COMMUTÉ – Au Canada, le réseau des centres de commutation locaux et interurbains interconnectés par des installations de transmission et assurant des raccords de circuits commutés qui donnent un accès bidirectionnelle aux abonnés du service téléphonique par l'intermédiaire de circuits locaux.

REVENDEUR SECONDAIRE – Revendeur qui agit essentiellement comme commercialisateur, vendant de la capacité excédentaire au nom d'entreprises privées et prenant un pourcentage des profits.

REVENDEURS – Compagnies qui louent d'autres télécommunicateurs une capacité de transmission à un prix de gros et qui utilisent cette capacité pour fournir des services à des abonnés individuels ou à des groupes d'abonnés à des prix suffisamment élevés pour faire un profit, mais suffisamment inférieurs aux tarifs équivalents des télécommunicateurs exploitant leurs propres installations pour attirer des abonnés. (Voir Arbitrage et Revendeur secondaire).

REVENTE – Prestation, sur une base commerciale, de services de communications par une entreprise utilisant des installations obtenues en vertu du tarif d'un télécommunicateur.

REVENUS APRÈS PARTAGE – Revenus nets d'une compagnie de téléphone après échange des sommes d'argent dues ou à recevoir des autres compagnies qui acheminent des appels interurbains en provenance ou à destination de sa zone de desserte. Comme telles, ils diffèrent des revenus réalisés et représentent la dépendance réelle d'une compagnie sur des sources particulières de revenus interurbains.

REVENUS DE CONTRIBUTION – Excédent de revenus des compagnies de téléphone par rapport aux coûts directs d'un service particulier ou d'une catégorie de services.

REVENUS FACTURÉS – Revenus obtenus par une compagnie de téléphone par suite de la prestation de services de communications. Voir également Revenus partagés.

REVENUS INTERCOMPAGNIES – Revenus reçus de services fournis entre deux compagnies de téléphone canadiennes différentes dont les zones de desserte peuvent être contiguës (catégorie de "compagnies adjacentes" de Telecom Canada), ou non contiguës (catégorie "transcanadienne" de Telecom Canada).

RVA – Voir Réseau à valeur ajoutée.

SECTEUR D'APPEL LOCAL – Zone géographique pour l'administration et la prestation de service téléphonique établie notamment à des fins de tarification. Ce terme est également utilisé pour désigner un abonné du service téléphonique qui peut rejoindre d'autres abonnés sans frais d'interurbain.

SÉPARATIONS – Aux États-Unis, processus par lequel les coûts de propriété de téléphone, les revenus, les taxes et les réserves, sont répartis entre des activités interétats relevant de la FCC, et des activités intraétat relevant des divers organismes de réglementation d'États.

SERVICE 800 – Service qui facture à l'appelé les appels faits à un numéro de téléphone spécial sans qu'il en coûte de frais à l'appelant pour les appels composés directement.

SERVICE D'ACCÈS AU RÉSEAU – Raccord ou ligne qui fournit aux abonnés l'accès au réseau téléphonique public commuté.

SERVICE DE LIGNE À DEUX ABONNÉS – Service partagé par deux abonnés dont les téléphones sont raccordés à la même ligne d'accès.

SERVICE DE LIGNE DIRECTE – Principalement un service d'affaires, il fournit une voix de communications spécialisée entre des terminaux se trouvant dans une même circonscription ou dans des circonscriptions différentes. Ce service peut être offert au moyen d'installations terrestres ou de satellite et, pour les applications interconnectées, présente trois configurations : a) les lignes de jonction reliant des centraux privés d'abonnés ou des commutateurs de Centrex dans chaque circonscription, b) les services de ligne hors circonscription raccordant un terminal d'un abonné dans une circonscription au central d'une compagnie de téléphone dans une autre circonscription, et c) des postes supplémentaires hors lieux qui raccordent le téléphone d'un abonné dans une circonscription à un central privé dans la même circonscription ou dans une autre.

SERVICE DE LIGNES HORS CIRCONSCRIPTION – Service téléphonique qui permet aux abonnés d'une circonscription de s'abonner au service local d'une autre circonscription. Il permet aux abonnés, moyennant des frais, de faire ou de recevoir des appels à des tarifs qui s'appliquent dans la circonscription éloignée.

SERVICE DE LIGNE INDIVIDUELLE – Service téléphonique public commuté dont les installations sont réservées à l'utilisation d'une seule entreprise ou d'un seul ménage.

SERVICE DE MESSAGERIES – Service de télégrammes et services connexes, d'usage du grand public, et qui ne requiert ni abonnement préalable ni équipement terminal fourni par l'abonné.

SERVICE DE TÉLÉAPPEL – Service qui permet la transmission par radio, d'un signal, habituellement un "ronflement" ou une "tonalité d'enregistrement", depuis un téléphone dans le réseau public jusqu'à un dispositif de réception personnel et portatif dans une zone d'exploitation définie. Des systèmes plus sophistiqués permettent des messages audibles ou visuels.

SERVICE INTERÉTATS – Aux États-Unis, service de télécommunications offert pour relier des points situés dans des états différents qui ne se trouvent pas dans la même zone de desserte locale.

SERVICE INTERURBAIN À COMMUNICATIONS TARIFÉES (SICT) – Service téléphonique interurbain public qui est fourni et facturé selon l'utilisation. Les appels interurbains peuvent être placés avec ou sans l'aide d'un téléphoniste.

SERVICE INTRAÉTAT – Aux États-Unis, service de télécommunications offert pour raccorder deux points situés dans le même état.

SERVICE LOCAL À LARGE BANDE – Réseau public des circuits commutés qui transmet directement d'un abonné à un autre des signaux numériques ou analogiques tels que des données, des messages, de la télémesure, de la coordination de messages téléphoniques et des fac-similés. Le service local à large bande permet de transmettre des données informatiques à des vitesses pouvant atteindre plus de 9600 bits/s.

SERVICE LOCAL TARIFÉ À L'UTILISATION (SLTU) – Service téléphonique dont la facturation pour les appels locaux est calculée en fonction de l'utilisation. Les frais sont imputés pour au moins quelques appels et peuvent être calculés en fonction de la durée, de la période de la journée et de la distance de l'appel. Les frais d'abonnement mensuels peuvent comprendre un certain nombre d'appels gratuits.

SERVICE PARTAGÉ – Utilisation sur une base partagée par plus d'un abonné d'un seul service tarifé offert par une compagnie de téléphone.

SERVICE RADIO CELLULAIRE – Service radiotéléphonique mobile dans lequel un seul émetteur dessert une zone géographique particulière appelée cellule. La zone de desserte se divise en un certain nombre de cellules, et le service est ininterrompu lorsque l'unité mobile se déplace d'une cellule à l'autre. On peut accroître la capacité de ce système en subdivisant les cellules existantes et en réutilisant les fréquences dans chaque nouvelle cellule.

SERVICE RADIOTÉLÉPHONIQUE MOBILE TERRESTRE – Services de télécommunications par radio à destination et en provenance de stations mobiles terrestres (p. ex., dans les automobiles ou sans fil).

SERVICE RÉGIONAL – Permet aux abonnés d'une circonscription de faire des appels dans une autre sans payer de frais d'interurbain. Il peut être fourni de manière que les frais interurbains ne s'appliquent dans aucune direction (service bidirectionnel) ou dans une seule direction (service unidirectionnel).

SERVICE TÉLEX – Service de télécommunications public commuté offrant des communications écrites bidirectionnelles non simultanées entre les abonnés utilisant des terminaux de téléscripteurs.

SERVICES AMÉLIORÉS – Gamme de services de télécommunications spécialisés qui ajoutent à la valeur des services de télécommunications fournis par des transporteurs ou les "améliore" – p. ex., des services de courrier électronique et téléphonique. Divers organismes de réglementation ont des définitions plus précises de services améliorés. (Voir, p. ex., décision Télécom CRTC 84–18.)

SERVICES DE CIRCONSCRIPTION – Services de téléphone locaux qui vont de la satisfaction des besoins élémentaires quotidiens en télécommunications des abonnés jusqu'à la location de services plus perfectionnés comme le Centrex.

SERVICES INTERCIRCONSCRIPTIONS – Services de télécommunications offerts entre des circonscriptions qui ne se trouvent pas dans le même secteur d'appel local.

SERVICES INTERLATA – Aux États–Unis, services de télécommunications dont les points de départ et d'arrivée se trouvent dans des zones locales d'accès et de transport différentes.

SERVICES INTRALATA – Aux États–Unis, services de télécommunications en provenance et à destination de la même zone local de transport et d'accès ou de la même zone de desserte locale.

SICT – Voir Service interurbain à communications tarifées.

SIGNAL NUMÉRIQUE – Signal électrique qui achemine l'information dans une séquence d'états discrets et physiquement distinguables, variable dans le temps.

SIGNALISATION – Processus qui consiste à faire passer l'information entre l'équipement pour établir et contrôler les télécommunications entre des points.

SIGNALISATION DOUBLE TONALITÉ MULTIFRÉQUENCE (DTMF) – Méthode de signalisation qui utilise une paire de tonalités audibles (l'une à fréquence relativement élevée et l'autre relativement basse) pour représenter un chiffre ou un autre symbole de composeur multifréquence. Un-plus (1+) est la méthode employée pour les lignes téléphoniques dotées du service "Touch-Tone" ou "Digital Tone". On obtient les tonalités en appuyant sur une clé du clavier de l'appareil téléphonique.

SIGNALISATION MULTIFRÉQUENCE – Méthode de signalisation sur les lignes et circuits téléphoniques qui utilisent des combinaisons de tonalités audibles pour représenter des chiffres.

SLTU – Voir Service local tarifé à l'utilisation.

STATION DE TRANSIT – Installation qui fournit une liaison entre deux ou plusieurs réseaux. Le noeud passerelle traduit les protocoles d'un réseau en ceux d'un autre, de manière à permettre la transmission des messages.

STATION TERRIENNE – Équipement basé au sol utilisé pour contrôler ou pour fournir des communications par satellite. Des stations terriennes de transmission/réception peuvent émettre et recevoir des signaux et peuvent être utilisées dans les communications bidirectionnelles comme la téléphonie.

SUPERVISION DE LA RÉPONSE/DU DÉBRANCHEMENT – Processus permettant de détecter quand on décroche le récepteur (réponse) ou quand on le raccroche à la fin d'un appel (débranchement) et qui émet un signal qui déclanche une action (p. ex., départ ou arrêt du compte, libération du circuit).

SYSTÈME NUMÉRIQUE DE TRANSMISSION RADIO – Système de radio par micro-ondes servant à la transmission de signaux codés numériquement.

SYSTÈME DE COMMUTATION ÉLECTRONIQUE – Système de commutation téléphonique qui utilise un ordinateur préprogrammé à usage spécial pour contrôler la commutation.

SYSTÈME RADIO – Système point à point dans lequel les signaux sont reçus, amplifiés et retransmis par une ou plusieurs stations de radio intermédiaires.

T-1 – Système de transmission numérique fonctionnant à un rythme de 1,544 mégabits par seconde avec un multiplexage standard (24 circuits de qualité téléphonique).

TARIF – La liste des tarifs et des règlements régissant la prestation des services de télécommunications par un télécommunicateur particulier.

TARIFS DE LA LIGNE VITALE – Tarifs téléphoniques subventionnés pour des groupes d'abonnés choisis – p. ex., les abonnés à faible revenu ou les personnes âgées.

TAUX DE RENDEMENT – Le bénéfice net en pourcentage qu'une compagnie de téléphone est autorisée à gagner, mesuré en calculant le bénéfice net par rapport à l'investissement. (**TAUX DE RENDEMENT INTERNE** désigne le taux appliqué à la marge brute d'autofinancement future d'une compagnie qui fait égaler à zéro sa valeur actuelle nette).

TELECOM CANADA – Consortium de neuf compagnies de téléphone importantes à travers le Canada, y compris B.C. Tel, AGT, SaskTel, Manitoba Telephone System, Bell Canada, NBTel, Island Tel, Maritime Tel & Tel, et Newfoundland Tel, ainsi que Télésat Canada. Québec–Téléphone est un membre associé. Telecom Canada, sous le nom de Réseau Téléphonique Transcanadien (RTT) a été formée en 1931 pour faciliter la prestation du service téléphonique d'un océan à l'autre. Le nom de Réseau Téléphonique Transcanadien a été remplacé par Telecom Canada en septembre 1983.

TÉLÉCOMMUNICATEUR EXPLOITANT SES PROPRES INSTALLATIONS – Télécommunicateur qui possède, plutôt que de louer, des installations de réseau utilisées pour offrir des services de télécommunications.

TÉLÉCOMMUNICATEUR INTERCIRCONSCRIPTION – Télécommunicateur interurbain.

TÉLÉCOMMUNICATEUR LOCAL – Aux États–Unis, compagnie de téléphone qui fournit le service téléphonique local à ses abonnés des services de résidence et d'affaires à l'intérieur de sa zone de desserte locale. Elle offre également des raccords d'accès commutés entre ses abonnés et les télécommunicateurs intercirconscriptions, ainsi que le service interurbain à l'intérieur de chaque LATA qu'elle dessert.

TRAFIC D'ARRIVÉE – Trafic dans un central qui est celui de la circonscription d'arrivée.

TRAFIC DE DÉPART – Trafic généré par des sources situées à l'intérieur d'une entité donnée, compte non tenu de la destination finale.

TRAITEMENT ÉLECTRONIQUE DE DONNÉES – Traitement de données effectué par des machines électroniques (c'est–à–dire, des ordinateurs).

TRANSCANADIEN – Catégorie de revenus interurbains de Telecom Canada. Le principal critère d'inclusion est que les deux extrémités d'un appel doivent être dans des zones de desserte de compagnies membres non adjacentes. Les revenus obtenus de services spécifiquement désignés (p. ex., Voicecom II, Multicom II, Dataroute, Datalink, Datapac, etc.) sont inclus, que les appels soient ou non entièrement à l'intérieur de la zone de desserte d'une seule compagnie membre ou dans celle de membres adjacents.